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**An Investigation into the Effectiveness of an Anti-Bullying
Curriculum**

Caroline Herrick

**Thesis submitted to the University of Nottingham for the
degree of Doctor of Applied Educational Psychology**

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Abstract

There is a body of research that emphasises the role that peers can have in either fuelling or preventing bullying behaviour. Bystanders typically reinforce bullying by joining in or passively watching (O'Connell, Pepler and Craig 1999). Social identity theory (Tajfel and Turner 1979) states that within a social group individuals are motivated to maintain a positive social identity and do so by adhering to group norms. Therefore, if bullying is normative within a group pupils are more likely to join in or passively watch (Duffy and Nesdale 2008; Gini 2006). This study evaluates the effectiveness of 'Defeat Bullying' (NSPCC 2007), a five week whole class anti-bullying curriculum. The overall aim of the curriculum was to create an anti-bullying group norm within the class. A pre-test, post-test non-equivalent groups quasi experimental design was employed, with an eight week follow up. Pupils aged 9-10 (year 5) from three schools in a predominately rural Local Authority (LA) in Yorkshire participated in the study (n = 69). School 1 received the intervention, School 2 received the intervention plus parental involvement and School 3 was the control group. Pupils' reported levels of bullying, attitudes towards bullying and knowledge of how to intervene in bullying situations were measured. Questionnaires regarding the pupils' difficult and prosocial behaviour were completed by the teachers. The impact of parental involvement on the effectiveness of the intervention was also explored. 'Defeat Bullying' (NSPCC 2007) did not have a statistically significant effect on any of the factors measured, which suggests there was no overall effect on the group norms regarding bullying. Furthermore, there was no statistically significant difference between School 1 and School 2 who received the intervention plus parental involvement. Possible reasons for the non significant results and the implications of this are discussed. The likelihood of changing group norms through the delivery of an anti-bullying curriculum is considered. The study raises questions in terms of whether or not parental involvement is important in anti-bullying interventions and if so what type of parental involvement is the most effective.

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1. Introduction

This study investigates the effectiveness of a five week whole class anti-bullying curriculum entitled 'Defeat Bullying', published by The National Society for the Prevention of Cruelty to Children (NSPCC) in 2007. A number of factors led to the development of the study.

The University of Nottingham is part of the Development and Collaborative Research Project (D and R) involving a group of universities that train Educational Psychologists (EPs). A group of Principal Educational Psychologists (PEPs) engaged in a national consultation in order to identify four main areas thought to reflect both local and national priorities within the United Kingdom (UK), and correspond with the Every Child Matters (Department for Education and Standards 2003) five outcomes. The purpose of the D and R project is to aggregate research carried out by Trainee Educational Psychologists (TEPs) in order to accumulate an evidence base around 'what works' in the four priority areas. One of the areas identified was the need for further research into the effectiveness of different approaches to tackling bullying in schools. Bullying has long been an issue of concern in schools. This concern is understandable, since most people will have experienced bullying in some way or another at school, either directly or indirectly (Smith and Sharp 1995). In a study conducted by Oliver and Candappa (2003) 51% of year 5 pupils and 28% of year 8 pupils from six primary and six secondary schools in the UK reported that they had been bullied that term. Furthermore, there is evidence to suggest that bullying has long lasting effects on health (Olweus 1993b).

The decision to conduct a piece of research into tackling bullying was influenced by the researcher's own interest in the topic, sparked by two years of teaching in an inner city school in Birmingham, which had recently moved out of special measures. The school served an area that was economically disadvantaged. 70% of the children were from ethnic minority groups. Additionally, 36% of the children had been identified as having special educational needs (SEN). One term into teaching at the school a new head teacher joined who was committed to inclusion. Her philosophy of education and the ethos that she tried to develop echoed my own values and beliefs. She believed that it is essential to promote the wellbeing of children as this is the foundation from which all

educational and social progress is based. In view of the ethnic and cultural diversity of the children it was particularly important to encourage a sense of community, belonging and caring for one another. The head teacher did not tolerate bullying in the school and placed a huge emphasis on developing positive relationships between the pupils. The head teacher was good at promoting an anti-bullying ethos in school assemblies and staff meetings. However, there were times when as a class teacher I felt that more guidance and information on the types of strategies and interventions that could be used at the classroom level to tackle bullying were needed. From this developed my interest in the different ways in which bullying can be tackled in schools.

Another factor that influenced the decision to conduct research into this area was the clear commitment from the previous and current government to tackle bullying. The previous Labour government published '*Safe to Learn: Embedding Anti-Bullying Work in Schools*' (Department for Children, Schools and Families 2007) (DCSF), which provides schools with advice on creating an anti-bullying policy and ways to prevent and respond to bullying incidents. This was accompanied by a suite of booklets which provides guidance on specific types of bullying (e.g. cyber and homophobic bullying). A further suite of guidance materials entitled '*Safe from Bullying*' (Department for Education and Skills 2009) was then published which addresses bullying in the community (e.g. children's homes, extended services, on journeys). Since coming into power, the Coalition government has made it clear that bullying continues to be a key issue. '*The importance of teaching: The schools white paper 2010*' (Department for Education 2010) argues that the role of head teachers is to '*create a culture of respect and understanding*' (pg. 35) and to '*take a strong stand against bullying*' (pg.10). Furthermore, it states that future Ofsted inspections will focus on four main areas, one being the behaviour and safety of pupils, which includes bullying.

Anti-bullying work is also a priority for the Local Authority (LA) in which the research was conducted. The LA's Children and Young People's Strategic Plan 2009-2012 states that in a survey carried out with children and young people living in the area, higher levels of concern about bullying were reported than found nationally. 53% of children and young people asked said they had experienced bullying (details of the survey, and the number and age of the participants is not provided). The plan states that the LA

hopes to reduce this to 45% by 2012 by working with children and young people to identify and implement strategies aimed at tackling bullying.

Once the decision was made to carry out a piece of research into the effectiveness of different approaches to tackling bullying the *type* of intervention to evaluate had to be selected. In the last two decades a wide range of interventions have been developed to reduce bullying in schools, although many of these lack rigorous evaluation (Frederickson 2008). Typically, bullying interventions have focused on changing the attitudes, beliefs and behaviour of the bullies and/or the victims. However, there is a body of research that emphasises the role that peers have in fuelling bullying behaviour by joining in or passively watching (Craig and Pepler 1997; O'Connell, Pepler and Craig 1999; Salmivalli, Lagersptz, Bjorkqvist, Osterman and Kaukiainen 1996). This can be understood from a social identity theory perspective (Tajfel and Turner 1979) which argues pupils are eager to uphold a positive social identity and therefore follow the group norms. If bullying is normative within a group pupils are more likely to participate in and/or accept this type of behaviour (Duffy and Nesdale 2008; Gini 2006).

As a class teacher I preferred to deal with issues of bullying with the whole class rather than with individual or small groups as I felt that this instilled a sense of responsibility in the children, encouraged them to look after one another and gave them the opportunity to problem solve together. Furthermore, dealing with individual children with regards to bullying could have led to the unhelpful labelling and/or stigmatisation. Dealing with bullying through Personal, Social and Health Education (PSHE) lessons and circle time allowed positive group norms to be established and supportive behaviour to be encouraged. However, these lessons were typically done as and when bullying situations arose with little planning or preparation. Although it was important and valuable to deal with these incidents, I felt that a more structured and preventative anti-bullying curriculum would have also been extremely valuable in terms of teaching and promoting an anti-bullying ethos within the class.

Owing to the factors above the decision was made to evaluate 'Defeat Bullying' (NSPCC 2007), a whole class curriculum based anti-bullying intervention. A number of charities, such as the NSPCC, Beat Bullying and Barnardo's have developed resources

aimed at combating bullying that are freely available and accessible to teachers via the internet. It is important that the effectiveness of these is known so that resources can be used to achieve the greatest impact.

An outline of the following chapters is now given. In Chapter 2 (Literature Review) research into bullying and theoretical explanations of bullying are outlined. The chapter then turns to the involvement of peers and theories to explain the behaviour that they typically display during bullying incidents. Research into the effectiveness of anti-bullying interventions is reviewed with a focus on peers. A rationale for involving peers in anti-bullying work through a whole class anti-bullying curriculum is developed. A systematic literature review of research examining the effectiveness of anti-bullying curriculum based interventions is conducted. The research questions and hypotheses which arose from the literature are stated. In Chapter 3 (Methodology) the epistemological stance of the researcher is given and general design issues are discussed. Following this, details of the study including the design, participants, intervention and measures used are described. The ethical considerations are stated. In Chapter 4 (Results) the results of the data analysis are presented in relation to each research question. A summary of key findings is given at the end of the chapter. In Chapter 5 (Discussion) the results are explored in more detail and set in the context of existing literature and research. Implications for the work of EPs and suggestions for future research are highlighted. The unique contribution of the study is stated. Finally, in Chapter 6 (Conclusion) the main findings and themes of the study are summarised.

2. Literature Review

2.1 Introduction

The literature review begins by discussing the definition of bullying and types of bullying. Research into gender differences in bullying behaviour and vulnerability to bullying is outlined. The prevalence of bullying and its effects on health are then considered. Following this, a range of psychological theories used to explain bullying behaviour are outlined. These range across explanations at the level of the individual, group and family (Frederickson 2008). Research into the roles that peers have in bullying episodes is discussed followed by possible theoretical explanations for this behaviour. The literature review then considers what can be done about bullying in schools, with a focus on peers. Two classic studies which evaluated the effectiveness of large scale anti-bullying programmes in Norway and England are described (Olweus 1993a; Whitney, Rivers, Smith and Sharp 1994). The findings of two existing systematic literature reviews of anti-bullying intervention studies are summarised. As a result of the research and theories into the role that peers play in bullying and existing research into anti-bullying interventions, the literature review then turns to focus on anti-bullying curricula. A systematic literature review is presented, which identifies previous studies into the effectiveness of anti-bullying curricula on reducing levels of bullying. From this, the rationale for the current study is presented and the research questions are given.

2.2 Definition of Bullying

It is agreed that bullying involves aggressive behaviour and is characterised by what is sometimes referred to as 'double I R' (Orphinas and Horne 2006; Frederickson 2008), which stands for **I**mbalance of power, **I**ntentional acts and **R**epeated over time. The imbalance of power between the bully and victim is often seen as height, weight and/or physical stamina. However, often the imbalance of power is more subtle than this, such as academic ability or the power of belonging to a certain social group, gang or clique (Orphinas and Horne 2006; Rigby 2002). Olweus (1993a) stresses that bullying is *not* an odd fight or quarrel between students of similar strength. It is generally agreed that bullying involves negative or hurtful behaviour that is intentional, and that bullying is repeated over time. Although, Olweus (1993a) argues that single incidences of more

serious harm should also be classed as bullying. Rigby (2002) offers his own definition of bullying, based on the analysis of a number of published views of what bullying is;

'Bullying involves a desire to hurt + hurtful action + a power imbalance + (typically) repetition + an unjust use of power + evident enjoyment by the aggressor and generally a sense of being oppressed by the victim'

(Rigby 2002 pg. 51)

2.3 Types of Bullying

Bullying can take a variety of forms and is generally characterised as being direct and physical, direct and verbal, or indirect (Smith and Sharp 1995). Examples of each are given below;

Direct and Physical: hitting, tripping up or taking belongings

Direct and Verbal: name calling, teasing, mocking

Indirect: gossip, spreading rumours, excluding someone from a social group

(Smith and Sharp 1995)

Over the last ten years cyber bullying has also become a significant issue. Cyber bullying is conducted through the use of text messages, email, photos/video clips from mobile phones, websites, instant messaging and social networking sights (Smith 2010). In the '*Staying Safe Survey*' (DCSF 2009a) children and young people aged 12-17 in England (n = 508) reported cyber bullying as the third most frequent type of bullying experienced, with teasing/name calling being first and physical bullying second. There are key differences between traditional bullying and cyber bullying. Mainly, that cyber bullying is much more likely to be committed and experienced outside of school, although is still typically between pupils from the same class or school (Smith, Mahdavi, Carvalho, Fisher, Russell and Tippett 2008). Also, with cyber bullying the issue of power imbalance, such as physical size and strength, is less relevant (Smith 2010).

2.4 Gender Differences

Research indicates that there are gender differences in bullying. Typically, physical bullying is associated with boys, and verbal bullying with girls (Ahmad and Smith 1994). However, it is likely that this sex difference has been oversimplified. Ahmad and Smith (1994) carried out a study to investigate sex differences in the nature and extent of bullying between boys and girls. A large scale survey was conducted in which 1,433 pupils from five different schools (two middle and three secondary) from around the UK participated. All the schools varied in terms of their ethnic minority population, location and size. The pupils completed a modified version of the *Olweus Bully/Victim Questionnaire* (Olweus 1996), which explored whether the pupils had been bullied or taken part in bullying that term and if so, details of the type of bullying and gender of the bully and victim. The results showed that overall boys were more involved in bullying than girls, at both middle and secondary school. The most common form of bullying was direct verbal (e.g. name calling, mocking), with little sex difference. Sex differences in the types of bullying became more apparent at secondary schools. Girls became less involved in physical bullying at secondary school, but it was still common in boys. Instead, girls engaged in more indirect bullying (e.g. spreading rumours, sending nasty notes). Ahmed and Smith (1994) conclude that previous studies which have failed to examine indirect forms of bullying may have resulted in the frequency of bullying in females being underestimated

Ahmed and Smiths' (1994) findings are similar to those of Whitney and Smith (1993) and Olweus (1993a). In summary this research suggests that verbal bullying is equally as common between boys and girls, but that boys tend to engage in more physical bullying whereas girls engage in more indirect bullying. However, it should be noted that a recent meta-analysis of 148 studies (Card, Stucky, Sawalani and Little 2008) found that the sex difference in participating in indirect bullying is actually minimal. Nevertheless, Smith (2004) states that anti-bullying interventions need to pay more attention to indirect forms of bullying as they typically emphasise more obvious physical and direct forms. The thesis now turns to the prevalence of bullying in schools.

2.5 Prevalence of Bullying

The first large scale study into the prevalence of bullying was conducted by Olweus in the 1980's in Norway. Olweus (1993a) devised the *Bully/Victim Questionnaire* which aims to investigate reported levels of bullying. As part of a nationwide campaign against bullying, all primary and secondary schools in Norway were invited to administer the questionnaire to their pupils. Approximately 85% of schools took part. Olweus (1993a) selected a representative sample of 830 schools, from which he gained valid data from 715. This comprised of approximately 130,000 pupils (age 8-16) which is almost a quarter of the school population in Norway. From the results Olweus estimated that approximately 15% (84,000 pupils) of the whole school population in Norway were involved in bully/victim problems 'now and then', or more frequently, in 1983-84, as either bullies or victims. Olweus (1993a) also calculated the number of pupils involved in more serious incidents of bullying. He estimated that approximately 3% (18,000 pupils) of the whole school population in Norway were bullied 'about once a week' or more. These results however cannot be automatically generalised to the UK owing to cultural differences.

It was not until a few years later in 1989-90 that bullying became a focus of public concern in the UK. The Gulbenkian Foundation (UK) committed to ten years of making bullying a priority area and funding anti-bullying initiatives. One project that the Gulbenkian Foundation supported was a large scale survey in 24 schools in Sheffield, which aimed to investigate the extent of bullying in English schools (Whitney and Smith 1993). Anonymous questionnaires were completed by 6758 pupils in seventeen junior/middle schools (age 8-12) and seven secondary schools (age 11-16) in Sheffield. The questionnaire examined reported levels of being bullied, or bullying others, in the current term. Pupils were given a definition of bullying before they completed the questionnaires. The authors described the reported levels of bullying as '*disturbingly high*'. 27% of junior/middle school pupils reported that they had been bullied at least 'sometimes' during the current term, and 10% reported being bullied at least once a week. In the secondary schools, the levels of reported bullying decreased. 10% of pupils said that they had been bullied at least 'sometimes' during the term and 4% 'at least once a week'.

More recently, Oliver and Candappa (2003) investigated children's experiences of bullying through the use of questionnaires and focus groups. Year 5 and year 8 pupils from six primary and six secondary schools within the UK took part in the study. The authors report that 51% of primary and 54% of year 8 pupils thought that bullying was 'a big problem' or 'quite a big problem' in their schools. In addition to this, 51% of year 5 pupils reported that they had been bullied that term and 28% of pupils in year 8. Therefore, taking into consideration this research, and that conducted by Whitney and Smith (1993), it can be stated that bullying is viewed to be a considerable problem by pupils in the UK. Research in other countries such as Norway (Olweus 1993a) and the USA (Perry, Kusel and Perry 1988) indicate that this problem also exists in other western countries with similar rates of prevalence.

2.6 Vulnerability to Bullying

Research suggests that certain children and young people are more vulnerable to bullying than others. There are numerous characteristics that researchers have claimed to be associated with being bullied (Frisen, Jonsson and Persson 2007; Rigby 2002). Johnson, Thompson, Wilkinson, Walsh, Balding and Wright (2002) conducted a study into the association between behaviour and vulnerability to bullying. This study is described in some detail as it is particularly relevant to the current study. The Strengths and Difficulties Questionnaire (SDQ) (Goodman 1997) was completed by 25 class teachers for 523 children aged 7-11. The SDQ addresses five areas of behaviour, these being, conduct, emotions, peer relationships, prosocial interactions and hyperactivity.

The pupils completed the 'My Life in Schools Checklist' (Arora and Thompson 1987; Smith 1992) in which there are 39 statements describing pleasant and unpleasant events. The pupils are asked to rate how frequently these events had occurred in the current week ('never', 'once' or 'more than once'). Participants were categorised as victims of bullying if they responded 'more than once' to any of the six items describing bullying behaviour. The authors found that children with a low prosocial score and a high total difficulties score were more likely to report being bullied. This was particularly true for boys. The authors conclude that social behaviour and interactions can significantly affect whether or not a child is subject to bullying. The literature review will now turn to discussing the effects of bullying on health.

2.7 Effects of Bullying

Rigby (2002) states that the main reason that people are concerned about bullying is because of the suggested negative effects that it has on health. In light of this, research into health is used as an example to explore the possible harmful effects of bullying on children and young people. This research does not link directly to the current study but is used to highlight more generally the importance of conducting research into anti-bullying interventions. There are other areas of research which could have been considered such as the association between bullying and academic achievement (Beran, Hughes and Lupart 2008; Woods and Wolke 2003). However, it was felt that the research into the effects of bullying on health is more holistic and considers the 'whole' child, for example their happiness and sense of belonging in school. It can be argued that factors such as these are a prerequisite to academic achievement.

Before considering the body of research into the effects of bullying on health, it is important to clarify what is meant by the term 'health'. Although it is a commonly used word it means different things to different people (Rigby 2002). The World Health Organisation (1948) defined health as;

'A state of complete physical, mental and social wellbeing and not merely the absence of disease and infirmity'

(World Health Organisation 1948 pg. 100)

Such a holistic view of health is now commonly accepted. Rigby (2002) identifies four aspects of health that may be affected by bullying;

- 1) Psychological wellbeing as indicated by happiness and self esteem
- 2) Social adjustment, as indicated by having a sense of belonging, rather than being lonely and alienated from one's environment
- 3) Psychological comfort, as opposed to feeling anxious or depressed
- 4) Physical wellness, as indicated by the absence of physical illness

(Rigby 2002 pg. 104)

Examples of research into the effects of being bullied and/or bullying others, on each of the four aspects of health will now be given.

2.7.1 Psychological Wellbeing

Happiness is thought to be a good indicator of 'psychological wellbeing' (Rigby 2002). In order to investigate the prevalence of bullying in Australia, Rigby and Slee (1991a) administered the Peer Relations Questionnaire to approximately 31,890 pupils age 8-18, over a seven year period. At the same time pupils were asked to respond to the 'Terrible-Delighted Faces' test, devised by Andrews and Withey (1976). This consists of pictures of seven faces each showing a different expression, ranging from a broad smile to a heavy frown. Pupils are asked, 'which face is most like yours when you are at school?' The majority of pupils pointed to the happy faces (85 % of girls and 77 % of boys). A small minority of pupils pointed to the unhappy faces (4 % of girls and 7 % of boys). Pupils who reported being bullied at school at least once a week were significantly more likely to report being unhappy at school, compared to other pupils. Similarly, in another study conducted by Rigby and Slee (1993), bullies were also significantly more likely to choose the unhappy faces than pupils not involved in bullying.

These studies provide support for there being an association between being bullied and/or bullying others, and reported levels of happiness. Similar findings have been replicated in other countries. For example, in the UK, Boulton and Underwood (1992) explored bully/victim problems in three middle schools. Six classes of 8-9 year old children and six classes of 11-12 year old children completed the *Olweus Bully/Victim Questionnaire* (Olweus 1996). Approximately 21% of the pupils reported being bullied that term, and 17% reported bullying others 'sometimes', or more often. Victims of bullying were most likely to report feeling unhappy and lonely at school, and reported having fewer good friends. However, unlike in Rigby and Slee's (1993) study, the same was not found for pupils involved in bullying behaviour.

There is also evidence to suggest that low self-esteem is associated with pupils who are subjected to frequent victimisation in both primary and secondary aged pupils (Boulton and Smith 1992; Rigby and Slee 1993). Furthermore, there is evidence to show that

children that bully others and bully-victims also have low self-esteem compared to children who have never bullied or been bullied themselves (O'Moore and Kirkham 2001). It should be emphasised that the research that has been discussed only provides evidence that there is an *association* between being bullied, and unhappiness and low self-esteem. It cannot be said that pupils become unhappy or low in self-esteem as a direct *consequence* of being involved in bullying. Although it seems highly likely that being bullied does reduce the happiness and self-esteem of those targeted, it is possible that pupils who look unhappy or lacking in confidence are picked on more frequently.

2.7.2 Social Adjustment

It is not surprising that a number of studies have shown that children who are bullied have an aversion to school. This has been evidenced in various ways (Rigby 2002). Kochenderfer and Ladd (1996) found that children at the age of 5, nominated by their peers as being victimised by others, were more likely to say that they did not like school. Zubrick, Silburn, Gurrin, Teoh, Shepard, Carlton and Lawrence (1997), in their large scale study of children's health in Australia found that victimised children were more likely to be absent from school.

Kochenderfer and Ladd's (1996) longitudinal study suggests a cause and effect relationship between social adjustment and peer victimisation. They investigated the relationship between peer victimisation and maladjustment in 200 kindergarten children. The children were mainly meeting and interacting with children they had not met before. From interviewing the children the authors estimated that approximately 20.5% of the pupils were being targeted as victims. The pupils' measure of victimisation over two separate months was significantly correlated with being lonely at school, not liking school and avoiding school. Kochenderfer and Ladd (1996) conclude that children tend to become lonelier and school avoidant after they are victimised by their peers. The authors state that there was no evidence to suggest that the school adjustment difficulties preceded being victimised.

Rigby (2002) questions whether bullies also suffer from being poorly adjusted in school. There is some evidence to suggest that pupils who bully do not like school as much as others and are more likely to be absent (Rigby and Slee 1993). However, Rigby

(2002) argues that this probably should not be accepted as a sign of maladjustment, and that what is a reasonable indicator of maladjustment for one group, may not automatically apply to another. For example, he argues that bullies may be more extraverted and adventurous in nature, resulting in them feeling bored at school, so therefore truanting. It cannot be assumed that if bullies truant from school it is because they are maladjusted, it could be for other reasons.

2.7.3 Psychological Comfort

One of the more commonly reported emotional reactions to being bullied is anxiety (Rigby 2002). Sharp (1995) found that victimised pupils were more likely to report feeling nervous, irritable and panicky after bullying incidents. 32% of the pupils said they had reoccurring memories of the bullying episodes and 29% stated that they found it difficult to concentrate after them. An association between being bullied and depressive symptoms has also been identified in the research (Slee 1995).

Slee (1995) investigated the relationship between victimisation, bullying and depression. Questionnaires were administered to 353 children (average age of 10.3 years), attending a primary school in Adelaide, Australia. All pupils completed the *Peer Relations Questionnaire* developed by Rigby and Slee (1991b) which investigates how pupils interact with their peers. The questionnaire contains twenty statements, some of which are related to bullying others e.g. 'I like to make other kids scared of me' and others that relate to being a victim e.g. 'I get picked on by other kids'. Pupils are asked to respond to how often each statement is true of them. The response categories range from 'never' to 'very often'. Pupils also completed the Depression Self Rating Scale (Birleson 1981). This is an 18 item scale which contains simple phrases such as 'I feel like crying'.

The results indicated a strong association between being victimised and depression. Pupils who reported being bullied 'most days or more frequently' indicated greater depressive symptoms. Interestingly, there was also a significant association between depression and those pupils who reported bullying others. The study highlights the potentially psychologically damaging effects that being involved in bullying can have. Although, the study only suggests that depression is associated with bullying and does not determine the direction of the effect. However, Olweus (1993b) found that boys

who were victims of bullying between the ages of 13 and 16 years were, at the age of 23, more likely to report higher levels of depressive symptoms. This suggests that victimisation in school could cause depressive symptoms in later life. However, the study only had a small sample size and a baseline measure of mental health was not taken, which are both limitations of the study.

2.7.4 Physical Wellness

There have been relatively few studies conducted into bullying and physical health, although there are some studies that suggest an association between the two. Williams, Chambers, Logan and Robinson (1996) carried out a study to investigate the prevalence of bullying and examine its association with common symptoms in childhood. A semi-structured health interview was conducted by school nurses with 2962 children in year 4 from Newham, East London. 22.4 % of pupils reported that they had been bullied. There was an association between being bullied and reporting not sleeping well, bed wetting, feeling sad, tummy aches and experiencing frequent headaches. The authors conclude that health professionals who see children with these symptoms should consider bullying as a contributing factor. The authors did not comment on whether or not there was an association between pupils that bully others and physical wellbeing.

Similar results have been found in secondary aged children. For example, Forero, McLellan, Rissel and Bauman (1999) examined the prevalence of bullying behaviours in pupils from New South Wales, Australia and its association with health. 3918 pupils in grades 6, 8 and 10 from 115 schools (ages 11-16) took part in the study. The pupils completed a self-report measure of bullying. They were also asked to respond to whether they had experienced a number of health symptoms and if so, the frequency. These included headache, stomach ache, backache, sleeping difficulties and/or feeling dizzy. Surprisingly, in view of the results in the previous study, the authors found no association between pupils who reported being bullied and physical health. However, pupils who reported being bullied *and* bullying others reported significantly higher levels of physical ailments. In a similar study Wolke, Woods, Bloomfield and Karstadt (2001) found bully/victims and victims were most likely to report physical health problems, whereas bullies were least likely. The findings of these studies suggest that bully/victims are at particular risk of ill health. However, it can only be said that

physical health is associated with bullying as the direction of the effect is not determined.

2.7.5 Summary of Effects of Bullying

The studies described in this section provide evidence for the harmful effects of bullying on health. The research reviewed calls attention to the need and importance of developing effective anti-bullying interventions in schools. However, more longitudinal studies that can demonstrate a cause and effect relationships between being bullied and/or bullying others and poor health, are needed. Next, a number of psychological theories that attempt to explain bullying behaviour are discussed.

2.8 Psychological Theories of Bullying

There are a number of psychological theories that attempt to explain bullying behaviour. These range across explanations at the level of the individual, peer group, family and school context (Frederickson 2008). Socio-cognitive deficit theories, theories of family influence, group processes theories and finally the ecological systems theory will be briefly outlined. The ecological systems theory is left until last as this theory offers a holistic view of bullying and acknowledges the combined impact of various factors on bullying behaviour (Swearer, Espelage, Vaillancourt and Hymel 2010). The ecological model encompasses a range of theories which leads to a much broader and over arching explanation of bullying. In order to add depth to the readers' understanding of the ecological model examples of theories within the various spheres of influence will be described first.

2.8.1 Socio- Cognitive Deficit Theories

Socio-cognitive deficit theories that attempt to explain bullying behaviour at the individual level draw on general models of aggression. The most influential of these is the Social Information Processing (SIP) model, described by Crick and Dodge (1994) (Frederickson 2008).

2.8.1.1 Social Information Processing (SIP) Model

The Social Information Processing (SIP) model provides a cognitive explanation for aggressive behaviour using a series of six steps (not necessarily linear), that children move through when interpreting and responding to social situations (Crick and Dodge 1994; Orphinas and Horne 2006). In the first step children encode cues from the situation, drawing on their social knowledge. They use this information to interpret the other person's intentions (step 2). For example, if a child is walking across the playground and something hits them on the back of the head they will look around for cues to interpret the situation and draw inferences about why it happened (Frederickson 2008). Once they have interpreted the situation the child chooses a goal (step 3). For example, the goal of a non-aggressive child may be to stay out of trouble or maintain the friendship. Alternatively, the goal of an aggressive child may be to express their anger, not lose face in front of their peers or gain revenge (Crick and Dodge 1994; Orphinas and Horne 2006).

In the fourth step, the child generates possible responses to the situation, drawing on their knowledge of past experiences. Orphinas and Horne (2006) state that an aggressive child may have a larger repertoire of aggressive, than prosocial responses. In the fifth step the child decides what to do, depending on their evaluation of the possible outcomes of their actions and their belief that they can reach their desired outcome using certain behaviours. An aggressive child is more likely to think that aggression will result in favourable results and feel confident that they can achieve their goal. Finally, in the last step the child enacts the chosen behaviour. There is some research to support the theory that aggression is caused by socio-cognitive processing problems (Crick and Dodge 1996).

It is disputed, however, whether *bullying* specifically, as distinct from other forms of aggression, is caused by socio-cognitive deficits in processing social situations (Frederickson 2008). It has been argued that bullies may in fact be skilled manipulators rather than socially inadequate, and that some forms of bullying, such as more subtle indirect bullying, require a high level of socio-cognitive skill (Sutton, Smith and Swettenham 1999a). A study conducted by Sutton, Smith and Swettenham (1999b) found that ringleader bullies scored higher on a test of theory of mind compared to

followers of bullies, victims and defenders of victims. Theory of mind is the ability to attribute mental states to others, such as their beliefs and intentions, and from this predict their behaviour (Frederickson 2008; Sutton, Smith and Swettenham 1999a). These findings are in contrast to the traditional view that bullies lack social skills and understanding (Sutton, Smith and Swettenham 1999b).

2.8.2 Theories of Family Influence

A number of theories argue that certain relationships and experiences within the family can be used to explain bullying behaviour (Frederickson 2008). Both social learning theory and attachment theory consider early childhood experiences to be crucial in either causing or exacerbating bullying behaviour.

2.8.2.1 Social Learning Theory

Social learning theory (Bandura 1977) maintains that bullying behaviour is learnt through modelling and reinforcement of behaviour and that early childhood experiences are particularly significant (O'Connell, Pepler and Craig 1999). There are a number of studies that show an association between bullying behaviour in children and parents who are hostile, punitive and physically violent (Bowers, Smith and Binney 1994). However, Frederickson (2008) states that much of the research in this area is correlational and therefore open to alternative explanations. It could be that parents of bullies are being aggressive as they are reacting to the bullying behaviour of their children, rather than the other way round. Two studies that try to demonstrate that bullying behaviour is *caused* by early childhood experiences will now be considered.

Olweus (1980) investigated the relationship between early childhood experiences and aggressive behaviour in boys. 76 boys aged 12-14 and 51 boys aged 15-17 took part in the study, along with their mothers and the majority of their fathers, from six different schools in Norway. From each class four to six randomly chosen boys completed a peer rating scale about the boys in the sample, in order to gain information about their levels of aggression. Retrospective interviews, conducted by seven female psychology students, were also conducted with the boys' mothers and fathers to gain information on their childhood rearing experiences. The interview consisted of 50 open questions for the mothers and 26 for the fathers.

The results indicated that mothers' negativism, mothers' permissiveness for aggression, parents' use of power-assertive methods and boys' temperament all correlated with high levels of aggression in the adolescent boys, with the former two having the greatest impact. However, retrospective interviews can be open to errors and bias. Parents may have provided information that has become inaccurate over time, or failed to report information of a negative or socially undesirable nature. If this is the case, then Olweus (1980) argues that high levels of negativity and aggression in early childhood could have an even *greater* effect on aggressive behaviour in adolescence, than reported in the results.

The results of a longitudinal study conducted by Schwartz, Dodge, Pettit and Bates (1997) also suggest that parental behaviour is crucial in the development of bullying behaviour. The authors carried out an assessment of the early family experiences of boys, first when they were pre-schoolers and again when aged 8-10 years. Victim or bully-victim status was investigated using a peer assessment questionnaire in school, which included items such as 'gets picked on' and 'says mean things'. The authors found that early experiences of domestic violence, physical abuse, maternal hostility and severe discipline were associated with bully-victim status in later life. The home environments of children who were bullies, but not victims were not associated with domestic violence and physical abuse, but with maternal hostility and harsh discipline. The home environment of the children identified as victims were similar to those children not involved in bullying. However, the authors note that over protective parenting was not assessed.

To summarise, the two studies described above provide some evidence to support the argument that early family influences can contribute to whether or not children engage in bullying behaviour at school, owing to them copying behaviour that they have seen and/or experienced in the home. Next another theory of family influence is discussed which considers the association between early attachments and bullying behaviour.

2.8.2.2 Attachment Theory

Whereas social learning theory states that children model their behaviour on what they observe, attachment theory takes a different perspective, emphasising the importance of the relationship between the child and main caregiver during infancy (Orphinas and Horne 2006). Bowlby (1969) presented the idea that early caregiver-child interactions lead to the development of an 'internal working model' which guides all future relationships. A number of different types of caregiver-child attachment styles have been described. These were identified using the Strange Situation Procedure (Ainsworth, Blehar, Waters and Wall 1978) whereby 10 month old infants were briefly separated from their mothers in an unfamiliar room and then brought back together. In general the infants reacted in one of three ways, which are thought to indicate different attachment styles:

Secure- these infants were pleased to see their parent when reunited with them. If they showed upset when their parent left the room, they settled on their return and continued to play.

Insecure-avoidant- these infants showed little distress when separated from their parent. When the parent re-entered the room the infant moved or turned away, ignoring them and continuing to play.

Insecure-resistant/ambivalent- These infants became very upset and anxious when separated from their parent. On their return they tended to seek comfort, yet reject it when offered.

(Ainsworth, Blehar, Waters and Wall 1978)

Research suggests that compared to children with a history of a secure attachment, children with an insecure attachment are more likely to display bullying behaviour and/or be victimised (Eliot and Cornell 2009; Walden and Beran 2010). It is hypothesised that children who are insecurely attached bully more as they develop a view of the world as being unsafe and therefore pay more attention to hostile social cues, leading to more aggressive behaviour in general (Crittendon and Ainsworth 1989). Additionally, the feelings of insecurity and lack of self worth that pupils who are

insecurely attached may experience can lead to a sense of vulnerability, making them an easy target for victimisation (Walden and Beran 2010).

In their study, Eliot and Cornell (2009) found an association between insecure attachment and self-reported bullying ($r = -0.33$) and peer nominated bullying ($r = -0.37$) in middle school children age 11-13. However, it should be noted that the strength of this association was relatively weak. Despite this, Eliot and Cornell recommend that anti-bullying strategies in schools should involve intervening at the level of the parent-child relationship. There are other studies that support the argument that there is an association between insecure attachments and involvement in bullying. For example, Walden and Beran (2010) conducted a study with 105 pupils (mean age 10.5 years) in Canada. They found that pupils who reported a poor attachment to their primary caregiver were more likely to report bullying and victimisation than pupils who reported a good attachment relationship.

More lately attention has been directed at a fourth category of attachment, named *disorganised attachment*. It has been suggested that 10% of infants form this type of attachment and is characterised by a variety of unpredictable behaviours, which come across as unusual and contradictory in the Strange Situation Procedure. Green and Goldwyn (2002) report a correlation between disorganised attachment and difficulties in the ability to regulate emotions, behaviour problems and psychopathology in later life. Frederickson (2008) states that further research into a possible association between disorganised attachments and bullying is needed.

There is some opposing evidence to the claim that there is an association between attachment and victimisation. Coleman (2003) found no significant relationship between quality of attachment to parents and victimisation. This lack of association is congruent with the findings of Lieberman, Doyle and Markiewicz (1999). They found that although quality of attachment was associated with some aspects of friendship such as helpfulness and sense of security, it was not related to acceptance by peers. Coleman (2003) argues that victimisation as opposed to the ability to develop intimate peer relationships, may be independent of the child and caregiver attachment and actually involve a much wider set of personality factors (e.g. shyness, anxiety, physical

differences) and psychological factors (e.g. parenting style, abusive family experiences, disinterest in child's social life) (Coleman 2003). It should be noted that these studies do not look at the relationship between attachment and bullying others. A general limitation of the research into attachment and involvement in bullying cited above is that the studies typically rely on pupil self-reports. Such studies could be strengthened by gathering data from parents, teachers and behavioural observations to substantiate the findings.

2.8.3 Group Processes Theories

Rather than viewing bullying as the behaviour of one individual, these theories consider the functions that bullying may serve within a social group (Frederickson 2008). Social dominance theory is an example of this approach.

2.8.3.1 Social Dominance Theory

There is evidence to suggest that bullying occurs amongst school children across the globe (Olweus 1993a; Perry, Kusel and Perry 1988; Rigby and Slee 1991a; Smith, Morita, Junger-Tas, Olweus, Catalano and Slee 1999; Smith, Pepler and Rigby 2004; Whitney and Smith 1993). Therefore, social dominance theory proposes that bullying is part of human nature (Nishina 2004). The theory states that humans are predisposed to create social hierarchies, because in evolutionary terms it is advantageous to do so. A clearly established hierarchy is beneficial as it minimises group conflict and ensures good organisation; this makes the group better equipped to attack others or defend themselves, thereby increasing the chance of survival (Nishina 2004). While it is possible to establish a position at the top of the hierarchy using prosocial as well as coercive means, Nishina (2004) argues that 'bistrategic controllers' who use both approaches are the most successful and popular.

Nishina (2004) suggests that bullies are admired by their peers because they promote a clear hierarchical organisation within the group together with a sense of stability and membership. When a hierarchy is stable there is little need for aggression in the group as the members know their own status. Hierarchies become unstable when individuals such as aggressive-victims compete for a higher position in the hierarchy. Aggressive-victims are described as those pupils who refuse to 'accept their place' in a group and

challenge weaker *and* stronger individuals (Frederickson 2008). Nishina (2004) argues that the potentially destabilising effect that this can have on a group can cause members to dislike and reject the aggressive-victim.

Taking the view that bullying is part of human nature it could be argued that bullying is difficult, if not impossible, to eradicate. The evaluation of a number of anti-bullying interventions supports this notion since changes in actual behaviour are often limited and/or short lived (e.g. Andreou, Didaskalou and Vlachou 2007; Jenson and Dietrich 2007; Roland 1989). However, Nishina (2004) stresses that social dominance theory should not be used to excuse bullying behaviour, but rather to help explain why the problem appears to be so persistent. The theory can be used to explore ways in which the school environment and structure may be impacting on levels of bullying (Frederickson 2008). Attempts to eliminate social hierarchy altogether may result in instability in the school and pupils may seek other ways of establishing social status, such as resorting to more secretive forms of peer victimisation (Nishina 2004). However, social hierarchies could be achieved in more positive ways such as the older pupils forming a school council, having a peer mentoring system, allowing the older pupils additional privileges and generally giving them more responsibility around school (Nishina 2004).

2.8.4 Ecological Systems Theory

Ecological systems theory is now frequently used to describe the interaction of multiple factors that influence whether an individual will develop positive social behaviour or will behave aggressively (Orphinas and Horne 2006). It is argued that the ecological model encompasses the range of theories discussed above. Swearer and Espleage (2004) state that:

'In a nutshell, bullying does not occur in isolation. This phenomenon is encouraged or inhibited as the result of complex relationships between the individual, family, peer group, school, community and culture'

(Swearer and Espleage 2004 pg.3)

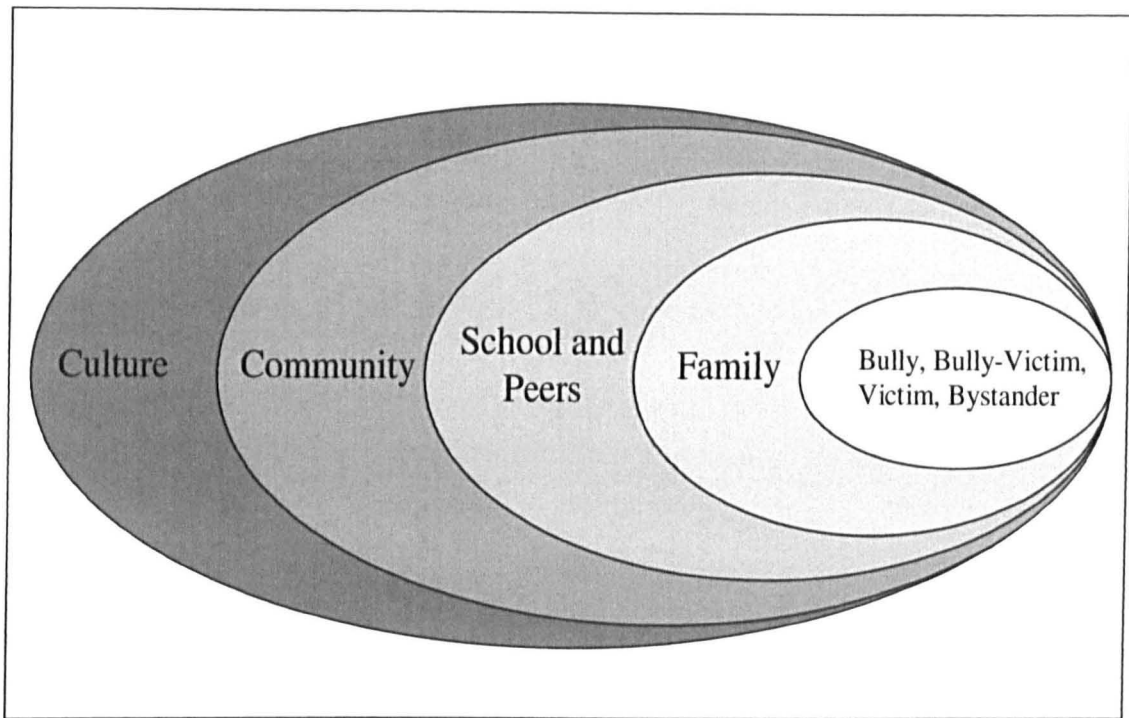


Figure 1.1: Ecological Model

The ecological model can be viewed as concentric circles that represent different levels of influence on behaviour. Different interventions can be implemented at each level. This is shown in Figure 1.1 and stems from the work of Bronfenbrenner (1979). The inner circle represents the individual. The second circle represents the individual's family and close friends. The middle circle represents the school, peer group and other organisations that the individual may attend. The two outer circles represent the community and culture in which the individual lives. Theories which limit their explanation of bullying behaviour to only one level of influence may be restricted in their explanation (Orpinas and Horne 2006).

Supporters of the ecological model state that recognising the multiple levels of influence surrounding bullying is essential for understanding the problem and developing appropriate interventions (Orpinas and Horne 2006). Additionally, Orpinas and Horne (2006) state that, the model creates an awareness of the different spheres that influence behaviour. For example, teachers may not be able to influence how child and parents solve conflict at home but they can model effective conflict resolution strategies in the classroom.

2.9 Peers and Bullying

Having discussed the ecological model it is now appropriate to consider the role that peers play in bullying behaviour. This is a sphere of influence within the ecological model that teachers are in a prime position to influence and is a topic of personal interest to the author, as shared in the introduction. Craig and Pepler (1997) state that bullying cannot be understood by just focusing on the interaction between two individuals, but should be considered as a group phenomenon. Traditionally, bullying interventions have focused on working with the bullies and/or victims. However, there is a body of research that emphasises the role that peers have in maintaining the social context in which bullying behaviour either thrives or fails (Craig and Pepler 1997; O'Connell, Pepler and Craig 1999; Salmivalli et al 1996; Sharp 1966). Research into the bystander behaviour of peers in bullying situations will now be considered.

2.9.1 Bystander Behaviour of Peers

Craig and Pepler (1997) conducted naturalistic observations of bullies and victims in the school playground using remote audiovisual recording. A sample of 41 aggressive and 41 socially competent pupils (matched for age, gender and ethnicity), identified by their teachers, participated in the study. The pupils attended two elementary schools in Canada and had a mean age of 9.9 years. Pupils were filmed at lunch and break time for a total of 48 hours. Each pupil was observed for approximately 53 minutes. To observe the pupil's interactions a video camera was set up in the classroom overlooking the playground. During filming, the target pupil was asked to wear a small micro-phone and pocket-sized transmitter. The micro phone detected not only the speech of the child, but also of those around him/her. The pupils who wore the microphones were aware that they were being filmed and instructed to play as normal. It is possible that the pupils felt self-conscious about the microphones whilst playing, impacting on their behaviour and therefore distorting the findings. However, it would have been unethical to not inform pupils that they were being recorded. Furthermore, it is likely that once engrossed in their play the pupils forgot about the microphones.

The researchers identified 314 bullying episodes during 48 hours of filming. This is equivalent to 6.5 episodes of bullying per hour. Bullying episodes were identified by two observers with 90% inter-rater agreement. The majority of bullying episodes were

short, lasting on average 38 seconds. Peers were involved in some capacity in 85% of the bullying episodes. Peers intervened in 12% of the bullying episodes, whereas adults only intervened in 4% of the episodes. However, adults were more likely to intervene than peers if present. Peers were more likely to intervene in a socially inappropriate way (7.4%) than a socially appropriate way (3.5%). Peers were observed being respectful to the bully in 75% of the episodes and, to the victim in 23% of the episodes. Since peers witness bullying more often than adults, it can be argued that any effective response to tackling bullying should involve peers (Sharp 1996). The authors acknowledge that a limited sample of pupils from two schools was used. They suggest that replication studies are conducted before the findings are generalised to other populations.

In a later study, O'Connell, Pepler and Craig (1999) studied similar video footage to examine further the peer processes that occur during bullying episodes (Pepler and Craig 1995). They looked at 53 segments of video tape, each showing a bullying episode. Peers were coded for actively joining in, passively reinforcing the bullying or actively intervening on behalf of the victim. Peers spent 54% of their time reinforcing the bully by passively watching, 21% of their time actively joining in by modelling the bully's behaviour and 25% of their time intervening on behalf of the victim. On average four peers were present at each bullying episode, with a range of two to fourteen. As suggested above with regards to the study by Craig and Pepler (1997), the authors state that some pupils were self-conscious about wearing the microphones, especially older children. This may have prevented the pupils from behaving as normal. They suggest that the methodology may be more appropriate for younger children. Additionally, the methodology used only allowed direct forms of bullying to be observed and coded. Indirect bullying was much harder to identify as it is more discrete.

Salmivalli, Lagerspetz, Bjorkqvist, Osterman and Kaukiainen (1996) investigated the different roles taken on by pupils in bullying situations (other than the bully or victim), the roles being, Assistant, Reinforcer, Outsider and Defender. *Assistants* are those peers who eagerly join in with the bullying once someone else had started it. *Reinforcers* of bullying offer supportive feedback to the bully by laughing, making encouraging gestures or simply watching. *Outsiders* withdraw from the bullying situation without taking sides. Finally, *Defenders* are against bullying and they may actively comfort the

victim or try and make others stop the bullying. Finnish sixth grade pupils (n = 573) aged 12-13 completed self and peer estimates of the roles taken on in bullying situations. Salmivalli et al (1996) were able to assign a participant role to 87% of the pupils. Girls were most frequently identified as being Defenders or Outsiders. For the boys, the role of Reinforcer or Assistant was more common.

There was a positive correlation between self and peer estimates of the roles taken on in bullying situations. However, pupils tended to emphasise their prosocial and withdrawing behaviour and underestimate aggressive behaviour in bullying situations. This raises the methodological question about whether peer ratings are more accurate than self reports when exploring the roles taken on in bullying situations (Salmivalli et al 1996). Pupils may be tempted to report more socially desirable behaviour in relation to their own involvement in bullying in order to portray themselves more positively, compared to peer estimates where they are possibly more honest. Overall, the research supports the idea that bullying is a group phenomenon that the majority of children have a role in. The authors conclude that the practical implication of their findings is that anti-bullying interventions should focus on changing the behaviour of the peers rather than that of the bully and/or victim. The literature review now turns to discuss the attitudes held by peers with regards to bullying as these can be a predictor of behaviour.

2.9.2 Attitudes towards Bullying

Attitudes and beliefs about bullying are central as they influence and guide actions (Rigby 2002). Sharp and Cowie (1994) argue that bullying is less likely to occur in contexts where the peers disapprove of bullying behaviour. Research shows that in general pupils tend to express an anti-bullying attitude (Boulton, Bucci and Hawker 1999; Rigby and Slee 1991a). Furthermore, there is some evidence to suggest a significant association between pupils' attitudes towards bullying and the extent to which they participate in bullying behaviour. Boulton, Trueman and Flemington (2002) found that children who expressed negative attitudes towards bullying reported least bullying. Boulton, Bucci and Hawker (1999) reported similar findings. This provides an argument for anti-bullying interventions focusing on changing the attitudes of peers which may then impact on behaviour.

However, there is also contradictory evidence which suggests that although peers think that bullying is wrong they do not take action against it. In their study Ortega and Mora-Merchan (1999) found that a high number of students did not take action against bullying (43.5%) despite reporting that it would have been the right thing to do. Similar findings were reported by Salmivalli et al (1996). Salmivalli and Voeten (2004) state that if bullying is viewed as a complex group interaction then a perfect attitude-behaviour link cannot be expected. It is likely that there are other factors such as group norms that influence pupils' behaviour in bullying situations. This issue will be addressed later in section 2.9.3.3.

2.9.3 Theoretical Explanations of Peer Behaviour

The studies above highlight the importance of considering bullying within a social context. However, they largely describe the behaviour, roles and attitudes taken on by peers in bullying situations (Duffy and Nesdale 2008). They do not propose any theoretical basis for understanding this behaviour and this seems like a significant weakness. In contrast to this, three theoretical explanations for the behaviour of peers in bullying situations will now be described.

2.9.3.1 Social Learning Theory

O'Connell, Pepler and Craig (1999) found that 21 % of peers in bullying episodes reinforced the bullying by actively joining in and copying the behaviour. This can be explained from a social learning perspective of modeling and reinforcement (O'Connell, Pepler and Craig 1999). Bandura (1977) identified three conditions that influence the likelihood of modeling occurring. A child is more likely to imitate a model when 1) they view the model as being powerful, 2) if the model is rewarded rather than punished for their behaviour, and 3) when the model has similar characteristics to them (O'Connell, Pepler and Craig 1999). These conditions are often present during bullying episodes; therefore peers may copy the behaviour of the bully.

2.9.3.2 The Bystander Effect

O'Connell, Pepler and Craig (1999) also found that 54% of peers reinforced bullying by passively watching. This can be explained by research which suggests that bystanders

are less likely to help a victim when part of a group owing to what is known as ‘diffusion of responsibility’ (Latane and Darley 1970). In a meta-analysis of 56 studies Latane and Nida (1981) reported that approximately 75% of people helped someone in distress or difficulty when alone, compared to only 53% when in the presence of others. This is a particular concern in relation to bullying since research suggests that it is largely a group phenomenon (O’Connell, Pepler and Craig 1999). Sharp (1996) argues that a sense of social responsibility to intervene on behalf of the victim can be encouraged and developed by teaching peers effective strategies to help in bullying situations. It should be noted that the majority of research into bystander effects has been conducted with adults and does not directly relate to bullying but other scenarios which involve victims.

The next theory to be discussed, social identity theory (Tajfel and Turner 1979), adds greater depth and understanding to the behaviour shown by peers in bullying situations. The theory explores further pupils’ decisions as to whether or not pupils copy the bullying behaviour as predicted by social learning theory, passively watch possibly owing to a diffusion of responsibility, or intervene in either a socially appropriate or inappropriate way.

2.9.3.3 Social Identity Theory

Social identity theory (SIT) (Tajfel and Turner 1979) provides further explanation of the peer groups’ involvement in bullying and examines the group dynamics that underpin bullying (Duffy and Nesdale 2008; Jones, Manstead and Livingstone 2009). Duffy and Nesdale (2008) state that,

‘SIT is a theory of inter-group behaviour, which proposes that individuals are motivated to achieve and maintain a positive social identity’

(Duffy and Nesdale 2008 pg. 18)

The theory states that an individual’s behaviour towards in-group and out-group members are influenced by their desire to belong to a group viewed as distinct and/or superior to others (Duffy and Nesdale 2008; Gini 2006). Although many individuals have an anti-bullying attitude this does not always predict behaviour (Ortega and Mora-

Merchan 1999). Social identity theory (Tajfel and Turner 1979) recognises the influence of the group context on behaviour and a key element of this is the impact of group norms. Within any social group there are group norms that members are motivated to adhere to in order to maintain a positive social identity (Duffy and Nesdale 2008; Gini 2006). Group norms can be thought of as a shared standard of behaviour (Salmivalli and Voeten 2004). These norms may regulate bullying related behaviours through a real or perceived pressure to conform. This suggests that pupils will engage in greater levels of bullying behaviour when it is normative rather than non- normative within their social group (Duffy and Nesdale 2008). When a pupil deviates from the group norms this can lead to disapproval from the peer group (Salmivalli and Voeten 2004)

There are a number of studies that support the argument that group norms are a predictor of bullying related behaviours. For example, Salmivalli and Voeten (2004) found that children in Grades 5 and 6 were less likely to bully or reinforce bullying when anti-bullying behaviour was normative. Similarly, Duffy and Nesdale (2008) found that bullying was found to be greater when endorsed by group norms. In a study conducted by Nesdale, Durkin, Maass and Kisesner (2008) it was found that pupil's bullying intentions were greater when there was a norm of out-group dislike compared to out-group liking. A limitation into the research surrounding bullying behaviour and group norms is that, according to Salmivalli and Voeten (2004), measures of classroom norms are scarce. The measures used in studies described above were developed and adapted by the authors. This has implications for their validity and reliability. However, social identity theory (Tajfel and Turner 1979) and the body of research surrounding it suggests that group processes in bullying should be considered when developing effective anti-bullying interventions.

2.9.4 Summary of Peers and Bullying

The research and theory discussed in section 2.9 provides a strong basis for the argument that peers should be involved in anti-bullying interventions in order for them to be successful. In keeping with social identity theory (Tajfel and Turner 1979) this should be done by intervening at the group or class level in order to have an impact on bullying norms. In order to explore this argument further the existing evidence base regarding the effectiveness of anti-bullying interventions will be reviewed. Within this

research the author is particularly interested in references made to the involvement of peers and the impact of this.

2.10 Research into the Effectiveness of Anti-Bullying Interventions

Many whole-school interventions are based upon Norway's nationwide project evaluated by Olweus (1993a) and Roland (1989). As these studies had such a huge influence on the type of anti-bullying interventions that are now recommended, they will be looked at first and described in some detail.

2.10.1 Norway's Nationwide Project

The tragic suicide of three pupils, as a result of bullying, in Norway 1983, led to a nationwide campaign against bullying. A survey of bullying was carried out in all 3,500 schools. Following this, a package of anti-bullying materials for teachers, including a video for classroom discussion and advice for parents was distributed. The four main strategies within the programme were staff training, developing a discipline policy, informing parents, and teaching prosocial skills through the curriculum. Two evaluations of the intervention were carried out in the mid 1980s. One of these was directed by Olweus (1993a) in Bergen. He evaluated the effectiveness of the intervention in 42 schools, focusing on pupils aged 11-14.

Levels of bullying were assessed using anonymous self-report questionnaires before the intervention and then one year, and two years later. The results were analysed in terms of age-equivalent comparisons. 11 year olds in 1983 who had not experienced the intervention were compared with 11 year olds in 1984 who had received one year of the intervention and 11 year olds in 1985 who had received two years of the intervention. This procedure was used as levels of bullying tend to decrease with age. Therefore, a decline in the levels of bullying each year could be explained by maturation rather than the intervention. Olweus (1993a) found that rates of bullying decreased by approximately 50% in both boys and girls. It should be noted that age comparison studies are susceptible to historical trends. It is possible that Norway was different in some way from 1983 to 1985 which affected rates of bullying. However, Olweus (1993a) rejected the idea that the reduction was due to other significant events.

Roland (1989) carried out a second evaluation of the intervention programme in the Rogaland county of Norway. He evaluated the effectiveness of the intervention in 37 schools between 1983 and 1986. The results indicated that there was no significant decrease in the reported levels of bullying and in fact, on some measures there was an increase. However, Roland took into consideration the extent to which the schools had implemented the pack and resources. He found a positive correlation between schools that used the pack most actively and a modest decrease in the reported levels of bullying.

The inconsistency of Olweus (1993a) and Roland's (1989) results could be due to the level of support the schools received. Olweus (1993a) provided regular and fairly intensive support in the 42 schools in which he worked, over the two year period. Roland (1989) however, allowed the schools to decide themselves the extent to which they would implement the materials provided. Thus, Olweus' (1993a) results may reflect what can be achieved when intensive support is offered and Roland's (1989) reflect the results of providing a package but with no further encouragement (Smith and Sharp 1995). The work in Norway influenced the 'Sheffield Project' which was the first large scale anti-bullying intervention implemented and evaluated in England.

2.10.2 The Sheffield Project

In 1989-1990 information regarding the relative success of the Bergen evaluation in Norway reached the UK, whilst around the same time bullying had become a focus of media and public attention (Smith and Sharp 1995). As already stated, the Gulbenkian Foundation UK committed to a ten year period of making bullying a priority area for funding and support. The large scale survey of bullying conducted in 24 schools in Sheffield (Whitney and Smith 1993) provided an opportunity for supporting these schools in implementing and evaluating an intervention. This was led by Whitney, Rivers, Smith and Sharp (1994). All 24 schools were invited to take part and 23 agreed. The one junior school that declined to take part, plus two of the secondary schools, agreed to act as a comparison group (Whitney, Rivers, Smith and Sharp 1994).

A core component of the intervention was the development of a 'whole-school policy' to which all the schools agreed and had support in developing. In addition to this,

schools were given a menu of interventions from which they could choose to implement. These fell broadly into three categories: curriculum based strategies, intervening in bullying situations and making changes to the playground and lunchtimes. The curriculum based interventions aimed to raise awareness of bullying, increase the pupils' empathy for victims and consider what should be done about bullying. The intervention strategies included videos for class discussion, plays and stories, with suggested follow up activities. The interventions that involved intervening in bullying situations were aimed at working directly with the bullies and/or victims. The intervention strategies included assertiveness training for pupils being victimised, bully courts, the Method of Shared Concern (Pikas 2002) and peer counselling. Finally, the playground and lunchtime based interventions aimed to improve the quality of the children's playtime experience. A number of interventions were suggested such as raising the status of the lunchtime supervisors, improving the quality of play during break times and redesigning the playground area.

Schools were given support and training on the interventions they selected. Some schools supplemented the suggested interventions with their own materials that they had developed or found. Schools were able to select as many or few interventions as they wanted. Two years after the initial survey the pupils completed the same measures again. The results showed a significant decrease in the reported levels of being bullied in the junior schools. However, in the secondary schools there was only a small change. Most of the schools reported a significant decrease in reported levels of bullying others. The project schools reported a significant increase in pupils reporting that they would not join in with bullying, this was more apparent in the secondary age pupils. Whitney, Rivers, Smith and Sharp (1994) also investigated to what extent the amount of effort put in by the schools (input) influenced the results obtained (output). The authors reported a positive correlation between the amount of effort put into the intervention, as perceived by the researchers and pupils, and improvements in bullying generally.

In the junior control school, reported levels of bullying increased, which supports the argument that the positive results in the project school were due to the interventions. In the three secondary control schools the findings were more complicated. Two of the secondary control schools had equally as good, or even better results on reported levels

of pupils being bullied or bullying others. However, they had both developed a whole-school anti-bullying policy during the intervention period. The third school was a better control as it had not developed anti-bullying strategies. The results indicated that this school had an increase in the reported levels of being bullied and bullying others. As with the results from the primary school, this supports the general finding that the intervention led to the positive outcomes reported. The authors conclude that the intervention had a positive impact on the levels of bullying in the project schools. However, the nature of this impact differed between schools depending on their commitment to the project.

2.10.3 Summary of the Norway and Sheffield Project

Both the Norway and Sheffield projects included a number of components such as the development of whole-school policies, curriculum based activities and working directly with the bullies and/or victims. Both studies were based on an ecological model which recognises the need for intervening at multiple levels in order to tackle bullying successfully. However, with such large multi-component studies it is difficult to know the success of each intervention *type*; it could be that certain interventions made a greater impact than others. Although both these interventions involved peers in some way no attempt was made to measure or discuss the success of this in particular. Therefore it can be argued that there is a need for further work in this area. The thesis will now turn to two systematic literature reviews to explore further existing research into the effectiveness of anti-bullying interventions.

2.11 Existing Systematic Literature Reviews

Two existing systematic reviews were used to explore further the evidence base for anti-bullying interventions. (Farrington and Ttofi 2009; Vreeman and Carroll 2007). Farrington and Ttofi (2009) conducted a systematic literature review and meta-analysis to explore the effectiveness of interventions aimed at reducing bullying and victimisation. In total 18 international electronic journals were searched and 35 journals hand searched from 1983-2009. Studies were included if they evaluated the effects of an anti-bullying intervention employing an experimental design. A total of 622 reports concerned with bullying prevention were found, a total of 89 of these reports described 53 different anti-bullying interventions. 44 of these met the inclusion criteria and

provided data suitable for the meta-analysis. The authors found that on average reported bullying decreased by 20%-23% and reported victimisation decreased by 17%-20% following intervention. Various types of interventions were found to have a positive effect however work with peers was associated with an increase in reported levels of victimisation. However, it is possible that raising the profile of bullying and encouraging pupils to tell an adult about it led to more pupils reporting it, rather than there being an *actual* increase in incidents of bullying. Unfortunately the authors do not state whether there was an overall reduction or increase in reported levels of bullying following those interventions that involved peers.

Vreeman and Carroll (2007) conducted a systematic literature review of school based anti-bullying interventions aimed at reducing levels of bullying. A wide range of electronic journals were searched. Overall 26 studies carried out between 1995 and 2005 met the inclusion criteria. The type of intervention employed was categorised as being either, multi-disciplinary or 'whole-school' (10 studies), curriculum based (10 studies), social skills groups (four studies), mentoring (one study) or support from a social worker (one study). The multi-disciplinary studies included a range of intervention types such as introducing rules and sanctions, teacher training, anti-bullying curricula and conflict resolutions training. Of the 10 multi-disciplinary studies seven reported a decrease in bullying, with older children reporting more positive effects. Three of the social skills studies found no reduction in bullying. However the mentoring study found a reduction in bullying for mentored pupils and the study regarding support from a social worker also had positive effects.

The anti-bullying curriculum based studies included videos, lectures and written materials. They varied in intensity from watching one video followed by a class discussion to a 15 week programme. Of the 10 curriculum studies six showed no significant reduction in reported levels of bullying but four studies *did* show a reduction following the curriculum based intervention. However, three of these also showed an increase in bullying and/or victimisation amongst certain populations such as younger children following the intervention. Vreeman and Carroll (2007) summarise that anti-bullying curricular interventions seldom reduce bullying. However, this seems a harsh conclusion to make since 40% of the identified anti-bullying curriculum studies *did*

have a significant impact on reducing reported levels of bullying in certain groups. Furthermore some of the anti-bullying curricula delivered were extremely short. For example the intervention in Boulton and Flemington's (1996) study only consisted of one lesson. The effectiveness of anti-bullying curricula on reported levels of bullying is inconclusive from this systematic literature review and further studies need to be examined. Before this is done the aims and theoretical underpinnings of anti-bullying curricula will be described.

2.12 Anti-Bullying Curricula

There is research to suggest that involving peers in anti-bullying interventions is important as they are typically present during bullying incidents and take on different roles (Craig and Pepler 1997; O'Connell, Pepler and Craig 1999; Salmivalli et al 1996). This behaviour can be understood from a social identity theory perspective (Tajfel and Turner 1979) which states individuals are motivated to maintain a positive self identity and do so by adopting the norms of their social group. If bullying is normative within a group then peers are unlikely to discourage or take action against bullying. The author suggests that delivering an anti-bullying intervention to the whole class will influence group norms around bullying. It is hypothesised that one way in which this can be done is through the delivery of an anti-bullying curriculum. This seems an obvious intervention choice since it involves the whole peer group and can be done as part of the school curriculum. The Sheffield and Norway Projects and existing systematic literature reviews all made reference to anti-bullying curricula. However, little attempt was made to describe what they aim to do or their theoretical underpinnings (Farrington and Ttofi 2009; Olweus 1993a; Roland 1989; Vreeman and Carroll 2007; Whitney, Rivers, Smith and Sharp 1994).

Anti-bullying curricula can be delivered through the use of film, videos, role play, literature, games, group activities and discussion. They aim to encourage the peer group to adopt socially responsible behaviour and teach the skills to intervene safely (Frey, Hirschstein, Snell, Edstrom, Mac Kenzie and Broderick 2005). Pupils are taught strategies to discourage bullying behaviour such as telling an adult, aligning themselves with the victim, showing disapproval verbally/non verbally and helping the victim to escape. Pupils do not just naturally acquire the skills needed to intervene in bullying

situations; they need to be taught explicitly and given opportunities to rehearse (Cowie and Sharp 1994; Sharp 1996). Anti-bullying curricula also give pupils the opportunity to discuss the feelings involved in bullying and hopefully develop empathy towards the victim. They also provide an opportunity to discuss the moral dilemma involved when deciding whether or not to intervene in a bullying situation (Sharp 1996). It is suggested that the effect of all of this is to promote an anti-bullying norm within the class. According to social identity theory (Tajfel and Turner 1979), if anti-bullying norms are adopted within the class then pupils will be motivated to adopt them in order to remain popular and feel included within the group. They may feel a real or perceived pressure to behave in a similar way to their peers as deviating from the norm can lead to criticism and disapproval (Salmivalli and Voeten 2004).

A more current and specific systematic literature review will now be conducted by the author to explore the effects of anti-bullying curricula on reported levels of bullying. Smith, Ananidou and Cowie (2003) state that there is little evaluation of such curricula outside the framework of multi- component large scale projects. Although this has already been indicated in the studies and existing systematic literature reviews discussed above, the author would like to explore this claim further.

2.13 Systematic Literature Review

A systematic literature review was carried out in order to identify previous research into the effectiveness of anti-bullying curricula in schools. Within the medical and educational professions, traditional narrative literature reviews are increasingly being replaced by systematic literature reviews. This is because they are thought to be a more rigorous and accurate way of summarising research findings (Hemingway and Brereton 2009). The main features of a systematic literature review are that;

- An explicit research question is addressed
- There is transparency of method used for searching for studies
- Exhaustive searches for studies are carried out both electronically and manually
- There are clear criteria for assessing the quality of the studies
- There are clear criteria for including or excluding studies within the review
- A clear summary of the findings is presented

The relatively recent surge of interest in systematic literature reviews is partly owing to the previous government's commitment to developing policies that had a clear evidence base. This was inspired by the success of the Cochrane Collaboration, established in the UK in 1992. The Cochrane Collaboration created a framework for performing systematic literature reviews of randomised controlled trials of medical interventions. This framework is now being applied in educational research (Evans and Benefield 2001).

2.13.1 Search Process

Three electronic databases were searched for anti-bullying curriculum studies published within the last ten years. These were, the British Psychological Society (BPS), ERIC and PsycINFO. Firstly, the keywords 'anti', 'bullying' and 'curriculum' were entered into the British Psychological Society database. This produced 4 results. Then the keywords 'anti', 'bullying' and 'lessons' were used, this produced 0 results. Finally the search terms 'anti', 'bullying', 'intervention' and 'control' were entered, this produced 5 results.

Following this, the ERIC database was searched using the original keywords 'anti', 'bullying' and 'curriculum'. This produced 27 results. Next, the keywords 'anti', 'bullying' and 'lessons' were entered and this produced 9 results. The search terms 'anti', 'bullying' and 'intervention' and 'control' were entered, this produced 6 results.

The database PsycINFO was searched using the keywords 'anti', 'bullying' and 'curriculum' which produced 24 results. Next, the terms 'anti', 'bullying' and 'lessons' were entered, this produced 5 results. Finally, the terms 'anti', 'bullying', 'intervention' and 'control' were used, resulting in 17 results.

In addition to this a systematic review of school-based interventions to prevent bullying was found using Google Scholar, published by Vreeman, Aaron and Carroll (2007). Within their review they identified 10 studies that evaluated the implementation of an anti-bullying curriculum. A systematic literature review into the effectiveness of school-

based programmes aimed at reducing bullying and victimisation by Farrington and Ttofi (2009) was also found using Google Scholar which included 21 studies which anti-bullying curricula were a component. The search process is shown in Table 1.1.

Database	Search Terms used	Number of Articles Found	Total Number
BPS	'anti' 'bullying' and 'curriculum'	4	9
	'anti' 'bullying' and 'lesson'	0	
	'anti' 'bullying' 'intervention' and 'control'	5	
ERIC	'anti' 'bullying' and 'curriculum'	27	42
	'anti' 'bullying' and 'lesson'	9	
	'anti' 'bullying' 'intervention' and 'control'	6	
Psych Info	'anti' 'bullying' and 'curriculum'	24	46
	'anti' 'bullying' and 'lesson'	5	
	'anti' 'bullying' 'intervention' and 'control'	17	
Total Number of Articles found			97 + 31 from two systematic literature reviews found on Google Scholar = 128

Table 1.1: A table to show the stages of the systematic literature review search strategy

As shown in the table above a total of 128 articles were found. However, many of the articles found were duplicated across the databases. Therefore, the total number of different articles found was 79. The abstract for each article was read in order to assess whether or not it adhered to the following inclusion criteria.

2.13.2 Inclusion Criteria

Types of people/participants

Studies conducted in mainstream primary schools were included in the review. The current study was carried out with primary aged children as research suggests that levels of bullying are higher in primary schools compared to secondary (Arora 1999; Oliver and Candappa 2003; Whitney and Smith 1993). Studies carried out in secondary schools were rejected. Although they may have provided some useful information it would not have been possible to generalise the findings to primary age children owing to a number of reasons. It is likely that there are developmental differences in the pupils owing to their age; this may impact on their understanding of the intervention and the types of bullying that they engage in. Research suggests that the type of bullying that pupils participate in changes as they move to secondary school, especially for girls (Ahmad and Smith 1994). Additionally, the structure of secondary schools differs to primary in that pupils are taught by a number of staff and regularly move between lessons. This may increase the opportunities for bullying and reduce the likelihood of staff intervening as there is no one teacher who has an oversight of the pupils throughout the day.

Type of intervention

The review included studies that evaluate the effectiveness of an anti-bullying curriculum, delivered to a whole class. An anti-bullying curriculum consists of a series of taught lessons aimed at reducing the reported levels of bullying. Studies that had other elements to the intervention were included.

Types of study design

Studies were included in the review if they evaluated the effectiveness of an anti-bullying curriculum by comparing an experimental group who received the intervention with a control group who did not. In this case the word ‘experimental’ refers to those pupils that received the intervention and does not necessarily imply random allocation. Only published reports were included.

Types of outcome

Studies were only included if they clearly indicated that levels of bullying or victimisation was included as an outcome measure. This could be measured in numerous ways such as self-report measures, teacher ratings, peer ratings or observations.

2.13.3 Studies Excluded

In total 72 out of the 79 abstracts were excluded, leaving a final seven. The reasons for excluding 72 of the abstracts will now be clarified. 13 abstracts were excluded as they were based on discussion papers that described anti-bullying interventions but did not evaluate their effectiveness. Eight abstracts were excluded as they were based on general anti-bullying books which again were not based on a specific piece of research. The remaining 58 abstracts *were* describing anti-bullying research studies. However, 35 did not meet one or more of the inclusion criteria as set out in section 2.13.2 above. Furthermore, two studies were excluded as they came from dissertation papers so therefore had not been peer reviewed or published. Two studies were excluded as they were only available in Italian and Spanish. One study was excluded because it was the same piece of research but published in a different journal. 11 studies were excluded as they were not published in the last 10 years. This left a final seven studies which are described in section 2.14.

It should be noted that the inclusion criteria were initially much tighter. Originally, the author planned only to include studies conducted in the UK as these findings would be more applicable to other UK locations. It was also intended that studies would only be

included if the participants had been randomly allocated to their groups. Many researchers consider this methodology to be the 'gold standard' (Robson 2005). By allocating the participants randomly, there are likely to be fewer differences across the groups. Therefore, by keeping the groups as similar as possible, it is more likely that the researcher is able to isolate and measure the impact of the intervention, with minimal effects from other factors that could affect the results (Cohen, Manion and Morrison 2002; Mertens 2009). Finally, it was intended to include studies that measured the effectiveness of an anti-bullying curriculum only, as Smith, Ananidou and Cowie (2003) state that there is little evaluation of such curricula outside the framework of multi- component large scale projects. However, as only a few studies meet these strict inclusion criteria, they had to be widened to the ones above, which do consider studies outside of the UK, do not require studies to use random allocation to groups and consider multi-component interventions.

2.14 Studies Included

The studies that met the inclusion criteria will now be described and critiqued in turn, beginning with randomised experimental designs and then moving onto quasi experiments.

2.14.1 Randomised Experimental Designs

2.14.1.1 Steps to Respect (USA)

Frey et al (2005) investigated the effectiveness of an anti-bullying programme called '*Steps to Respect: A Bullying Prevention Programme*'. The intervention aimed to reduce levels of bullying and victimisation, reduce passive bystander behaviour, change the pupils' beliefs about bullying and increase their social and emotional skills. Six elementary schools within the Pacific North West of the USA were randomly allocated to either the intervention or control group. Children in grades 3-6 participated in the study (n= 1126). The intervention was implemented for a school academic year and had two main components. Firstly, staff were given training aimed to raise their awareness and responsiveness to bullying, give advice on how to support the victims of bullying and provide an overview of the intervention's aims. The second component of the intervention was an anti-bullying curriculum aimed at promoting prosocial beliefs and

behaviour through a series of lessons. The ten semi-scripted lessons were taught over a 12-14 week period by the class teachers. Parents were sent home regular letters outlining the key concepts and skills being taught in the lessons. Activities were suggested to parents of how they could consolidate or further develop their child's learning.

A number of measures were taken in order to assess the impact of the intervention. The pupils completed *'The Student Experience Survey: What school is like for me'* (Frey, Dietsch, Diaz, MacKenzie, Edstrom, Hirschstein and Snell 2004) before and after the intervention. This aimed to measure the pupils' levels of bullying behaviour and beliefs. The teachers completed a questionnaire aimed at assessing the pupils' peer interaction and social skills. Playground observations were also carried out of 620 randomly selected children. Each child was observed for five minutes once a week, for ten weeks before and after the intervention. Additionally adult behaviour was coded. The observation information was gathered by the researchers using hand held computers in which they recorded the frequency and types of behaviours they observed.

The post data from the playground observations indicated a decrease in the levels of bullying and argumentative behaviour in the intervention group compared to the control. An increase in prosocial behaviour and less destructive bystander behaviour was also observed. Pupils in the intervention group reported increased bystander responsibility, greater perceived adult responsiveness to bullying and less acceptance of bullying, compared to the control group. The results did not differ by gender or age.

Frey et al's (2005) study uses a rigorous randomised control trials (RCT) experimental design. The study does not rely solely on self-report measures, but includes playground observation and teacher reports, which may provide a more objective measure of the programme's effectiveness. However, it can be argued that using playground observations as a measure of outcome is subjective and open to interpretation. For example one researcher may interpret an incident on the playground as 'play fighting', and another as 'bullying'. However, the researchers were vigilant in ensuring that the observational coding of behaviour was reliable and valid. Before the experiment the 13 coders attended 200 hours of training. Additionally, random agreement checks were

made for 15% of the playground observations in which high levels of inter-rater reliability were found.

An ethical consideration of playground observations is the potential effect that they may have on the social acceptability of those pupils being observed. Peers may be reluctant to play with pupils being observed if they feel self conscious about being watched. Also they may not want to associate themselves with the pupil if they think they are being observed for negative reasons. This could have harmful effects on the self esteem and friendships of those pupils being observed. In Frey et al's (2005) study this negative effect seems unlikely; the pupils were only observed briefly for 5 minutes once a week so probably went unnoticed. Also the experimenters observed a number of pupils in each school which may have made the observations seem more normal and therefore acceptable by their peers. Finally, a limitation of the study is that it is unlikely that all bullying behaviours were witnessed during the playground observations. In particular, indirect forms of bullying such as gossip may have gone unnoticed. Frey et al (2005) suggest that using recording devices may be a way of capturing indirect forms of bullying.

2.14.1.2 Youth Matters (USA)

Jenson and Dietrich (2007) evaluated the effectiveness of an anti-bullying curriculum intervention called *Youth Matters*, aimed at reducing levels of bullying and victimisation. Pupils from 4th and 5th grades from 28 elementary schools in the USA participated in the study. Schools were randomly allocated to either the experimental group (n = 702) or control group (n = 462). Self-report questionnaires were completed by the pupils before and after the intervention in order to measure reported levels of bullying and victimisation. The curriculum consisted of four modules, each lasting approximately ten sessions, aimed at strengthening peers' beliefs and attitudes against bullying. The *Youth Matters* curriculum is based on the Social Development Model (SDM) (Catalano and Hawkins 1996). The model identifies four factors that are believed to promote prosocial behaviour. The curriculum aimed to address each of these factors;

- 1) Loyalty and commitment to the school and its members

- 2) Belief in the shared values and practices of the school
- 3) Clear rules and standards regarding anti-social behaviour
- 4) Social, emotional and cognitive skills that enable pupils to solve problems, be confident in social situations and resist peer pressure to go against their beliefs and values

(Jenson and Dietrich 2007 pg. 287)

The results indicated that there was no significant reduction in the reported levels of bullying within either the intervention or control group. However, there was a significant decrease in the reported levels of victimisation in the intervention group, compared to the control. The strengths of this study are that it employs a randomised control trial (RCT) design and has a large sample size. Additionally, unlike some studies, the authors are explicit about the psychological theory in which the intervention is embedded, strengthening the programme's credibility.

2.14.1.3 KiVa (Finland)

Salmivalli, Kaukiainen and Voeten (2005) evaluated the effectiveness of an anti-bullying curriculum aimed at influencing group norms and increasing schools' ability to deal with bullying situations. The intervention was implemented in 48 Finnish schools in grades 4-6 which were randomly allocated to either the intervention or control group. In total 1,220 children (600 girls and 620 boys) participated in the study. The effects of the intervention were analysed using a cohort longitudinal design with adjacent cohorts, meaning groups of age equivalent pupils who had not experienced the intervention were matched. The intervention is called KiVa, which is an acronym of the expression 'Kiusaamista Vastan', meaning 'against bullying' in Finnish. The word 'kiva' means 'nice' (Farrington and Ttofi 2009).

The intervention has a number of components. The programme included 20 anti-bullying lessons delivered to the pupils by their class teacher. Lessons included class discussions, group work, short films about bullying and role play. After each lesson a class rule was adopted based on the main theme of the lesson (Farrington and Ttofi 2009). A unique feature of the intervention was the use of an anti-bullying computer game. The game had five levels. Each level taught the pupils facts about bullying,

introduced them to challenging bullying situations in a virtual school and encouraged the pupils to think about how they would make use of their knowledge and skills in real life situations. The class teacher activated the next level of the game after the relevant lesson had been taught.

Other components of the intervention included teacher training (a series of meetings and whole training days across a year); peer support groups for children being victimised; a web based discussion forum that teachers could access for support and sharing ideas; and the wearing of vests by teachers at playtimes to increase their visibility and signal that bullying was being taken seriously by the school. Additionally, parents were sent home a guide providing information and advice on bullying and invited to information evenings.

The pupils completed a number of self-report and peer-report questionnaires at two points during the intervention which investigated reported levels of bullying; levels of observed and experienced bullying; pupils' attitudes and beliefs related to bullying; and their participant role behaviours. The teachers also completed measures about the extent to which the actual content of the intervention was implemented. The results showed a positive impact on the reported frequency of bullying and victimisation, observed bullying, attitude towards bullying and to some extent participant role behaviours. The intervention was more effective in grade 4 compared to grade 5, and in those schools that implemented the programme to a higher degree.

2.14.1.4 Friendly Schools (Australia)

Cross, Hall, Hamilton, Pintabona and Erceg (2004) evaluated the effectiveness of an anti-bullying intervention called the '*Friendly Schools Project*'. This is a multi-component whole-school approach which aims to reduce levels of victimisation and bullying, and increase the confidence of pupils, teachers and parents to deal with bullying situations. Schools in Perth, Western Australia, were randomly selected and assigned to either the intervention or control group. 29 schools took part in the study (15 in the intervention group and 14 in the control group). In total 91 grade 4 teachers, 2068 grade 4 pupils (age 8-9) and their parents, and 174 'whole-school committee' members participated. The intervention lasted two years and targeted three levels: the schools'

commitment and capacity to address bullying, parents' awareness of bullying and skills to support their child in bullying incidents, and grade 4 pupils' understanding and knowledge of bullying.

The *Friendly Schools* curriculum comprised of nine learning activities per year, each lasting approximately one hour. These were taught by the class teacher in three blocks of three 60 minute lessons, one block per term. The lessons aimed to increase the pupils' understanding of what bullying is, their ability to discuss and respond to bullying and promote peer discouragement of bullying behaviour. Each lesson provided opportunities for the pupils to build empathy for the victims of bullying, practice social skills such as making friends, conflict resolution and assertive communication. Family activities, linked to the anti-bullying lessons were also sent home, aimed at consolidating and extending what had been learnt in the lesson. Additionally, 16 skills-based newsletters (eight per year) were sent to parents, containing research information on bullying and strategies to help parents support their child more effectively with bully related issues. An anti-bullying committee was also set up in order to plan, identify and prepare whole school strategies. The committee was provided with a manual which provided information on a number of strategies such as *The Method of Shared Concern* (Pikas 2002) and the *No Blame Approach* (Robinson and Maines 2008).

Self-report questionnaires based on other bullying questionnaires developed for use in primary schools (Olweus 1996; Rigby and Slee 1991a) were completed by the pupils. These aimed to measure reported levels of bullying and victimisation, their attitudes towards bullying and perceptions of what might happen to someone if they bullied another pupil. Parent, teachers and members of the whole-school committee also completed questionnaires in order to assess their knowledge, attitude, skills, and satisfaction with the programme. All measures were completed before the intervention, after and at a one year follow up. The results indicated that between the pre and post-test two measures, there was a slight increase in the reported levels of bullying in both the intervention and control group. However, at the post test two measure, the intervention group were significantly more likely to tell an adult if they saw another pupil being bullied, compared to the control group. Pupils in the control group were

significantly more likely to report positive attitudes towards the victims of bullying compared to the intervention group following the intervention.

The authors highlight that the intervention was intended to be a multi-component intervention. However, the intervention schools provided a much higher ‘dose’ of the curriculum programme than the other whole school activities. The authors state that by the end of the two years the intervention schools had implemented less than 30% of the whole school activities. In contrast, the mean proportion of classroom activities taught over the two years was 67%. The strategies that aimed to involve parents were described as being the most difficult to apply. Finally, the effectiveness of the intervention was measured using self-report measures only, completed by the pupils. The pupils may have wanted to please their teacher who had spent time and effort on the curriculum, so rated its effects more highly on the post measure. This is known as *participant bias* (Robson 2005).

2.14.2 Quasi-Experimental Designs

Studies that employed a quasi-experimental design will now be discussed. In quasi-experiments participants have not been randomly assigned to the intervention or control group.

2.14.2.1 Greek Anti-Bullying Programme

Andreou, Didaskalou and Vlachou (2007) investigated the long and short term effects of a four week anti-bullying curriculum aimed to minimise both bullying and victimisation. Pupils from the 4th-6th grades from ten primary schools in Greece took part in the study (N= 454). An experimental pre-test/post-test design with a control group was used (N= 206 control, N= 248 experimental). The classes were allocated to either the experimental or control group depending on the teacher’s willingness to be directly involved with the intervention. Self-report measures were completed by the pupils to measure reported levels of bullying, their participant role behaviours and self-efficacy beliefs for aggression, assertion and intervening in bullying behaviours. The measures were completed before the intervention, immediately after and six months later. The curriculum aimed to create opportunities within the classroom for awareness raising, self-reflection and problem solving, in relation to bullying. The curriculum

consisted of eight instructional hours implemented over approximately 1 month. The lesson materials were developed by the researchers and delivered by the class teacher.

There was no overall statistically significant reduction in the reported levels of bullying and victimisation after the intervention, although there was a slight decline. However, there was a positive reduction in outsider behaviour (children who watch the bullying and silently allow the bullying to continue). The results also indicated an increase in pupils' beliefs for asserting themselves and intervening in bullying situations. The intervention was more effective for the younger pupils (age nine) than the older pupils (age 11). Greater effects were observed for the girls than boys. The long term effectiveness of the intervention was limited as it was only the increase in pupils' beliefs for assertion that maintained at the six months follow up.

There are a number of limitations to the study that should be highlighted. As the experimental and control group classes were in the same schools, this may have resulted in '*diffusion of treatment*' (Robson 2005). This is when the control group may inadvertently receive aspects of the treatment, which was only intended for the experimental group. For example this could have happened during lunchtime, breaks or at the end of the school day. This may have limited the differences between the post test results of the experimental and control group. Secondly, the study could have been improved by having a researcher present at each lesson, to check for 'treatment fidelity', meaning how accurately or faithfully the teachers stuck to the lesson plans. Without this, it is difficult to know if the *actual* lesson plans were effective or not. Finally, the effectiveness of the intervention was measured using self-report measures only, completed by the pupils, which may have been subject to '*participant bias*' (Robson 2005).

2.14.2.2 *Dare to Care (Canada)*

Beran, Tutty and Steinrath (2004) evaluated the effectiveness of the anti-bullying programme *Dare to Care*. Pupils from grades 4-6 (N= 197), from four elementary schools in Colorado took part in the study. The main aim of the programme was to reduce levels of bullying and create a safe school environment. The main components of the programme were: training to staff and parents in order to share the programme's

principles; the development of an anti-bullying policy; and the delivery of an anti-bullying curriculum aimed at teaching the pupils about the nature of bullying and strategies to avoid victimisation. The curriculum included class discussions, role plays, artwork, books and videos. The authors do not specify who taught the lessons, whether the lesson plans were provided, their frequency or duration.

The pupils completed measures of reported bullying, witnessing others being bullied, strategies used when witnessing bullying and perception of the school climate. Pupils also completed the *Pro-Victim Scale* (Rigby and Slee 1991a) which measures pupils' attitudes toward bullies and victims of bullying. All measures were completed before and after the intervention was implemented.

The first research component was a pre-test, post-test comparison between a school that implemented the intervention for three months and a control school. The results indicated that the frequency of bullying witnessed by the pupils significantly decreased in the intervention school, but remained stable in the control school. The pupils' reported levels of bullying, however, did not decrease. The types of strategies that the pupils reported using remained stable in both the intervention and control group following the intervention. Attitudes towards bullying became significantly worse in the control school but remained stable in the intervention school. The second research component compared the effectiveness of the intervention in three schools that had implemented the intervention for different lengths of time (3 months, 1 year and 2 years). The schools that implemented the intervention for the longest period of time reported more positive attitudes towards victims than the other two schools. However, this could have been due to maturation rather than the intervention itself. Other indicators of the programme's success were not significantly different between the three schools.

The authors state that the relatively small sample size limits the ability to generalise the findings. They also highlight that the '*Dare to Care*' programme did not have a standardised set of procedures. Therefore, it is likely that the programme was implemented differently in each school. The lack of programme uniformity makes the evaluation of the programme difficult.

2.14.2.3. Ecological Programme (Canada)

Rahey and Craig (2002) investigated the effectiveness of an anti-bullying programme implemented in two elementary schools (grades 1-8) in Canada. One school took part in the intervention (N= 204) and the other acted as a control group (N= 251). Schools were selected for the study based on an expressed interest in reducing bullying. The schools were comparable on variables such as size, ethnic minority population and family composition. The pupils completed a shortened version of the *Olweus Bully/Victim Questionnaire* (Olweus 1996) in order to measure reported levels of bullying. They also completed a questionnaire in which they nominated pupils in their class that they believed to be victims or bullies. Parents and teachers completed a questionnaire aimed at exploring bullying, victimisation, and internalising and externalising behaviours of the pupils. All the measures were administered before, immediately after the intervention and eight weeks later.

The twelve week programme aimed to reduce levels of bullying and victimisation and increase pupils' understanding of bullying. It had three main components; a series of lessons taught to each class, a peer mediation programme and group work for those pupils involved in bullying incidents. The anti-bullying curriculum, which was implemented by seven graduate psychology students, consisted of a series of taught lessons addressing issues such as bullying and victimisation, conflict resolution, empathy, listening skills and embracing diversity. Pupils were given a piece of homework linked to each lesson aimed at generalising the programmes effects. The authors do not state the frequency or duration of these lessons. The peer mediation programme was based on teaching conflict resolution skills to 16 pupils in grades 5-8. Group work for those pupils involved in bullying, either as a victim or bully, aimed to teach skills such as listening, developing empathy and offered the pupils supportive counselling.

The results showed that bullying did not significantly decrease for the pupils in the intervention school. However, reported levels of victimisation decreased for older pupils (grades 3-8), but increased for younger pupils (grades 1-2). Older pupils reported a decrease in the severity of victimisation, whereas there was a reported increase in severity from the younger pupils. There was also a reported decrease in peer isolation

and an increased perception of safety in school by the older pupils. However, again the opposite was true for the pupils in grades 1-2. The authors suggest that the programme may have heightened the awareness of bullying in the younger pupils by providing a clear definition of what it is, resulting in them reporting it more confidently in the post test. Alternatively the programme could have just been effective for the older pupils and not aimed at the right level for the younger pupils. The authors state that the intervention was not implemented as rigorously as intended, especially the homework element. Therefore, by not implementing the programme as intended, the results may not reflect the true potential of the programme.

2.14.3 Summary of Research

Seven studies that met the inclusion criterion were found. Four of these employed a randomised experimental design and the remaining were quasi experiments. The results of these studies suggest that by strengthening attitudes and beliefs against bullying and teaching the social skills needed to respond to bullying appropriately, levels of bullying and victimisation can be reduced in schools. The effectiveness of the interventions differed depending on the age of the participants, treatment integrity and the length of the intervention.

The studies reviewed were conducted in the USA, Canada, Australia, Finland and Greece. Therefore, caution should be exercised in automatically generalise the results to the UK. Three of the studies (Andreou, Didaskalou and Vlachou 2007; Beran, Tutty and Steinrath 2004; Jenson and Dietrich 2007) relied solely on self-report measures completed by the pupils. These could be susceptible to *participant bias* (Robson 2005), especially with the topic of bullying where pupils may feel worried or scared to tell the truth. The outcomes of the other four studies (Cross, Hall, Hamilton, Pintabona and Erceg 2004; Frey et al 2005; Rahey and Craig 2002; Salmivalli, Kaukiainen and Voeten 2005) were more reliably evaluated by coupling the use of self-reports with more objective measures such as the use of the teacher/parent questionnaires and playground observations.

Andreou, Didaskalou and Vlachou (2007) conducted the only study that evaluated the effectiveness of an anti-bullying curriculum without there being any other intervention

components. Other than this, there was no evaluation of an anti-bullying curriculum outside the framework of multi- component large scale projects. Therefore, it is difficult to know their true effectiveness. Furthermore, in two of the studies (Beran, Tutty and Steinrath 2004; Rahey and Craig 2002) treatment integrity was highlighted as a limitation. By not implementing the programme as intended, the results may not reflect the true potential of the intervention. There is a need for further studies that check for treatment fidelity.

Finally, four of the seven studies (Frey et al 2005; Salmivalli, Kaukiainen and Voeten 2005; Cross, Hall, Hamilton, Pintabona and Erceg 2004; Rahey and Craig 2002) involved parents in some way. However, none of these studies reported whether or not parental involvement had a positive impact on the effectiveness of the anti-bullying interventions. Furthermore, the authors do not discuss the meaning of the term 'parental involvement'; the thesis will now address this.

2.15 Parental Involvement

There is evidence to suggest that parental involvement is positively associated with pupils' achievement and learning in school (Englund, Luckner, Whaley, and Egeland 2004 and Fan and Chen 2001). Desforges and Abouchaar (2003) review the research into why parental involvement is thought to be effective. They conclude that the impact of parental involvement stems from parents' positive values and educational aspirations which are shown through parents' interest and enthusiasm for education and positive parenting. These values, they argue, are perceived and internalised by the child, having an impact on their motivation to learn, self-belief and aspirations. Epstein (1992) states that pupils' produce

'better academic work and have more positive school attitudes, higher aspirations and other positive behaviours if they have parents who are aware, knowledgeable, encouraging and involved'

(Epstein 1992 pg. 1141)

Parental involvement can represent a number of behaviours and practices both at home and/or in school (Brito and Waller 1994). It ranges from an impersonal visit to school

once a year to regular parent-teacher meetings, to playing an active role in school life such as being a parent governor. Therefore, parental involvement can be viewed as a continuum, ranging from very low, or non-existent, to very high (Georgiou 1997). A number of typologies of parental involvement have been proposed. For example, Epstein (1992) outlines six dimensions of parental involvement. These are:

- 1) Parenting e.g. providing shelter, food, home conditions to allow studying
- 2) Communicating e.g. home/school links, sharing information
- 3) Volunteering e.g. helping with events at school, in the classroom
- 4) Teaching at home e.g. supporting with homework, helping with academic decisions
- 5) Decision making e.g. member of school committee
- 6) Collaborating with the community

There is a body of evidence that indicates certain demographic characteristics help to either facilitate or hinder levels of parental involvement (Desforges and Abouchaar 2003). Research suggests that parental involvement is strongly related to socio-economic status (SES), the higher the SES the more parental involvement that takes place (Grolnick, Benjet, Kurowski and Apostoleris 1997). The same can be said for levels of parents' education, in particular the mothers: the higher the level of maternal education, the greater the amount of parental involvement that takes place (Davis-Kean 2005; Pena 2000). There is also evidence to suggest that parental involvement tends to change and diminish as children get older. Parental involvement is also associated with pupils' academic achievement. For example the higher the level of attainment the more parents become involved (Desforges and Abouchaar 2003).

Some authors dispute the association between parental involvement and academic achievement. Fan & Chen (2001) conducted a meta-analysis of quantitative studies examining the relationship between parental involvement and pupils' academic achievement. The authors found inconsistent results between studies. They were unable to draw any general conclusions in terms of the effectiveness of parental involvement owing to the lack of a clear definition of its meaning. The absence of a clear definition of 'parental involvement' makes research into this area problematic. Researchers have

different understanding of the term 'parental involvement' and therefore examine different aspects of it within research. These then makes it difficult to measure the effectiveness of 'parental involvement' as researchers are potentially measuring different things but under the same heading (Fan and Chen 2001; Georgiou 1997).

Furthermore, a limitation of typologies of parental involvement such as that of Epstein's (1992) outlined above is that there is no attempt to rank the types of parental involvement in terms of importance or effectiveness. Georgiou (1997) poses the question: If a parent never goes into school or attends school events but supports their child every night with their homework, are they 'involved'? In other words, can parental involvement simply refer to pedagogic support at home or does it require a relationship between the parents and school to be developed. Georgiou (1997) conducted a study in order to seek a definition of the term parental involvement and explore the relationship between specific types of parental involvement and academic achievement. Data was gathered from 852 parents of pupils aged 11-12. Georgiou (1997) concluded that parental involvement is a complex behaviour that takes a number of forms and that not all types of parental involvement are associated with academic achievement. A factor analysis approach identified six types of parental involvement. These are stated below.

- 1) Learning at home e.g. supporting with homework, checking that homework has been completed
- 2) Volunteering and decision-making in school e.g. attending events organised by the school committee
- 3) Parenting through emphasising achievement e.g. showing an interest in school grades and praising good marks
- 4) Parenting through pressure e.g. pressing the child for higher academic achievement. This is perceived as being oppressive rather than supportive.
- 5) Parenting through control e.g. exercising control over daily non-academic activities such as diet and TV viewing
- 6) Parenting through personality development e.g. encouraging wider interests outside of school such as hobbies

Georgiou (1997) categorises the last four types of parental involvement on the list above as parenting styles. The results found that volunteering and decision-making in school, emphasising achievement and personality development all had a positive statistically significant association with academic achievement. There was a negative statistically significant association with parenting through pressure. There was no significant association between learning at home or parenting through control and academic achievement. The lack of association between learning at home and academic achievement could be because low-achieving children receive more support at home. However, there is other research that suggests positive effects of parents being involved in learning at home. For example, Hoover-Dempsey, Battiato, Walker, Reed, De Jong and Jones (2001) review research into parental involvement with homework. They state that a parent being involved with homework provides the opportunity for children to learn from modelling, reinforcement and instruction. From the researched reviewed they conclude that parental involvement with homework has a positive effect on supporting the development of positive attitudes, knowledge and behaviour.

Future research into the effects of parental involvement should clearly state the type of parental involvement that is intended to be evaluated, for example from the typology presented by Epstein (1992) or Georgiou (1997). This would mean that useful conclusions and comparisons in terms of the effectiveness of certain types of parental involvement could be made. The four studies identified within the systematic literature review suggest that there is a need for further investigation into the impact of parental involvement on the effectiveness of anti-bullying interventions. In light of the literature above, for this to be meaningful within the current study a clear definition of what type of parental involvement is intended must be stated. The thesis now turns to the research questions where the impact of parental involvement on the effectiveness of an anti-bullying curriculum is posed as a question.

2.16 Research Rationale

There is a body of research that suggests for anti-bullying interventions to be successful they need to involve peers in some way rather than just intervening with the bully and/or victim (Craig and Pepler 1997; O'Connell, Pepler and Craig 1999; Samivalli et al 1996). The ecological model identifies peers as one sphere of influence that can

impact on bullying behaviour (Swearer and Espleage 2004). Research shows that peers are frequently present during bullying incidents but rarely intervene positively (Craig and Pepler 1997). This behaviour can be understood from a social identity perspective which states individuals are motivated to maintain a positive social identity within their social group so are eager to adhere to group norms (Tajfel and Turner 1979). If bullying is viewed as being normative within a group then peers are unlikely to intervene (Duffy and Nesdale 2008). It is proposed that one way in which group norms can be influenced is through the delivery of a whole class anti-bullying curriculum. Anti-bullying curricula provide pupils with the opportunity to explore the feelings involved in bullying, develop strategies to intervene in bullying situations and discuss the difficulties that peers face in terms of whether to intervene or not. The results of this may be a change in the bullying group norm, shown by reduction in reported levels of bullying.

Although the Norway and Sheffield project interventions (Olweus 1993a; Roland 1989; Whitney, Rivers, Smith and Sharp 1994) involved peers in some way there was no specific consideration in terms of the effectiveness of their involvement. Furthermore, the two existing systematic literature reviews referred to also included studies that involved peers. Farrington and Ttofi (2009) concluded that studies that involved peers led to an increase in reported levels of victimisation. Unfortunately they did not comment on overall reported levels of bullying. Vreeman and Carroll (2007) looked more specifically at anti-bullying curricula however it was felt that the conclusions drawn about their effectiveness were uncertain. The systematic literature review conducted by the author further supports the rationale for the need for further research into the effectiveness of anti-bullying curricula. All the studies except one (Andreou, Didaskalou and Vlachou 2007) were multi-disciplinary so again it was hard to tease out the impact that the involvement of peers had on the success of the interventions. Furthermore, only one of the studies (Jenson and Dietrich 2007) stated the interventions theoretical underpinnings.

The proposed study aims to make a unique contribution to the anti-bullying evidence base by evaluating an anti-bullying curriculum entitled 'Defeat Bullying' published by the National Society for Prevention of Cruelty to Children (NSPCC) in 2007. Within

the NSPCC materials no overall aim is specified. However, each lesson plan has a clear objective:

1. Encouraging pupils to explore their own attitudes, values and understanding of bullying
2. Raising awareness of the feelings involved in bullying
3. Encouraging pupils to embrace diversity
4. Raising awareness of keeping safe in vulnerable situations
5. Encouraging pupils to take action against bullying and resolve conflict

The objectives above address issues of attitudes towards bullying, the feelings involved in bullying and how to intervene safely and positively in bullying situations. Here, it can be argued that, taking a social identity theory perspective (Tajfel and Turner 1979), the overall aim of these objectives is to create an anti-bullying norm within the class and therefore influence levels of bullying. Additionally, the impact that parental involvement has on the effectiveness of the intervention will be explored. This aspect of the study arose from the systematic literature review which identified a number of studies that involved parents but no attempt was made to measure the impact of this (Frey et al 2005; Salmivalli, Kaukiainen and Voeten 2005; Cross, Hall, Hamilton, Pintabona and Erceg 2004; Rahey and Craig 2002). Also within these studies there is no discussion about the definition of the term ‘parental involvement’. Involving parents in the current study means that the intervention will extend into another sphere of influence within the ecological model, that being the family context. The research questions are now stated.

2.16.1 Research Questions and Hypotheses

The study will aim to answer the following questions:

1) What are the effects of the anti-bullying curriculum on pupils’ reported levels of bullying?

Experimental Hypothesis: There will be a statistically significant difference between the experimental groups and control in levels of bullying following the intervention.

Null Hypothesis: There will be no statistically significant difference between the experimental groups and control in levels of bullying following the intervention.

It should be noted that the hypothesis above is two tailed. A two tailed hypothesis is used if the nature of the relationship being examined is not entirely clear, owing to insufficient or contradictory evidence (Dancey and Reidy 2007). There is inconsistent evidence in terms of the effectiveness of anti-bullying curricula. Some research suggests that levels of bullying decrease following an anti-bullying curriculum based intervention (Frey et al 2005: Salmivalli, Kaukiainen and Voeten 2005) whereas other research suggests that it actually increases (Cross, Hall, Hamilton, Pintabona and Erceg 2004). This increase could be owing to pupils having a better understanding of what bullying is and feeling more confident to report it rather than an increase in actual incidents of bullying. Therefore, it was not possible to predict the direction of change on reported levels of bullying following the intervention. All the other hypotheses that follow are one-tailed; meaning a prediction about the direction of change is made (Dancey and Reidy 2007).

2) What are the effects of the anti-bullying curriculum on teachers' reports on pupil behaviour?

Experimental Hypothesis: There will be a statistically significant decrease in difficult behaviour and an increase in prosocial behaviour in the experimental groups compared to the control group following the intervention.

Null Hypothesis: There will be no statistically significant decrease in difficult behaviour or increase in prosocial behaviour in the experimental groups compared to the control group following the intervention.

A positive change in the above (reported levels of bullying and behaviour) will be indicative of a change in the group norm. Group norms were not measured specifically owing to the lack of standardised measures in this area, as indicated in section 2.9.3.3. This is considered further in the discussion chapter.

3) What are the effects of the anti-bullying curriculum on pupils' beliefs and attitudes towards bullying?

Experimental Hypothesis: There will be a statistically significant increase in anti-bullying/pro-victim attitudes in the experimental groups compared to the control group following the intervention.

Null Hypothesis: There will be no statistically significant increase in anti-bullying/pro-victim attitudes in the experimental groups compared to the control group following the intervention.

4) What are the effects of the anti-bullying curriculum on the volume of responses given per group on how to intervene in a bullying situation?

Experimental Hypothesis: There will be a statistically significant increase in knowledge of how to intervene in bullying situations in the experimental groups compared to the control groups following the intervention.

Null Hypothesis: There will be no statistically significant increase in knowledge of how to intervene in bullying situations in the experimental groups compared to the control groups following the intervention.

5) Does parental involvement have an impact on the effectiveness of the intervention?

Experimental Hypothesis: There will be a statistically significant greater effect in School 2 compared to School 1 in terms of the overall effectiveness of the intervention.

Null Hypothesis: There will be no statistically significant greater effect in School 2 compared to School 1 in terms of the overall effectiveness of the intervention.

A greater effect in School 2 compared to School 1 will provide support for the argument that parental involvement contributes to the effectiveness of anti-bullying interventions.

It will also suggest that anti-bullying interventions are more effective when they intervene at a number of levels within the ecological model.

3. Methodology

3.1 Introduction

In this chapter three main research paradigms are discussed, positivism, social constructivism and post positivism. The paradigm adopted by the researcher is stated. Following this, the typical features of qualitative and quantitative/experimental research are highlighted. The present study is next described in terms of the design, procedure and measures used. Consideration is then given to the internal and external validity of experimental research generally and then more specifically to the current study. Finally, the ethical considerations made throughout the research process are discussed.

3.2 Research Paradigms

Mertens (1998 p.3) states that a researcher's '*theoretical orientation has implications for every decision in the research process including the choice of method*'. A paradigm can be defined as a set of basic beliefs based on ontological, epistemological and methodological assumptions (Guba and Lincoln 1994). Guba and Lincoln (1994) provide three key questions that help define a paradigm: 1) what is the nature of reality? (ontology), 2) what is the nature of knowledge and the relationship between the researcher and participants? (epistemology), and 3) what tools should the researcher use to gain the knowledge required? (methodology). Three main research paradigms are discussed in terms of their ontological, epistemological and methodological assumptions.

3.2.1 Positivism

Positivism is considered to be the 'standard view of science' (Robson 2005). The underlying assumption of this paradigm is that one true reality exists and it is the researcher's role to discover this reality. Positivists look for explanations, meaning that if you can relate an event or phenomenon to a general law then you have explained it (Mertens 1998; Robson 2005). Positivists hold the view that the researcher and participants are independent of one another and that it is possible for the researcher to describe the world in an impartial and unbiased way (Robson 2005; Willig 2009). Positivists believe that science should be conducted in a way that is value free and assumes that it is possible to separate facts and values (Bryman 2008). Therefore,

quantitative methods are most commonly associated with this paradigm. Critiques of the positivist paradigm argue that observations and conclusions made within research are rarely truly objective owing to the influence of the researcher's own personal perspectives and beliefs (Robson 2005; Willig 2009).

3.2.2 Constructivism

The constructivist paradigm is sometimes referred to as an 'interpretative' (Mertens 1998) or 'naturalistic' approach (Guba and Lincoln 1994). This paradigm evolved from some researchers' dissatisfaction with the underlying assumptions of the positivist paradigm (Mertens 1998). The basic assumption of the constructivist paradigm is that knowledge is socially constructed and that language is a vital part of this (Robson 2005; Willig 2009). This is not to say that we can never truly know anything, but that there are 'knowledges' rather than 'knowledge'. Constructivists state that the aim of research is to understand the multiple ways that social reality is constructed (Willig 2009). In contrast to positivists, constructivists hold the view that the researcher and participants interact and influence one another (Mertens 1998). The participants are seen as helping to construct 'reality' with the researcher (Robson 2005). Qualitative methods such as interviews and observations are mainly used in this paradigm, in order to gain multiple perspectives (Robson 1995).

3.2.3 Post Positivism

The current study is firmly rooted within the post positivist paradigm. Similarly to positivists, post positivists hold the view that one true reality exists, however, they believe that this reality can only be known imperfectly owing to the researcher's limitations (Mertens 1998). Positivists state that the researcher and the participants are independent of one another. However, post positivists acknowledge that researchers are biased by their prior experiences (e.g. values, beliefs, hypotheses) and recognise the possible effects of these biases when interpreting their results (Robson 2005). Quantitative methods continue to be dominant in this paradigm, although qualitative methods are sometimes used. Unlike positivists, post positivists recognise that it is not always possible to apply experimental methods used in the natural world (e.g. randomised control trials) in research involving people, so sometimes a less rigorous approach is taken (e.g. quasi-experimental) (Mertens 1998).

3.2.4 Rationale for Taking a Post Positivist Stance

The rationale for adopting a post positivist stance is now stated. The author was interested in exploring a ‘cause and effect’ relationship between the independent and dependent variables. It is generally accepted that bullying is characterised by an imbalance of power and intentional harmful acts which are repeated over time (Orphinas and Horne 2006; Frederickson 2008). As there are generally agreed characteristics of bullying it can be argued that this makes it measurable. However, it was felt that to take a purely positivist stance, which states that facts and values can be separated would have been inappropriate. This is because, despite the definition, people are still likely to have their own views in terms of what constitutes an imbalance of power, intentional harmful acts and repeated over time. This would in turn affect their reported levels of bullying. Owing to this remaining element of subjectivity it was felt that a post-positivist stance was most appropriate. As stated above, post-positivists recognise that reality can only be known imperfectly owing to the researcher’s limitations (Mertens 1998).

Furthermore, the researcher was present during the delivery of the lessons meaning the researcher and the participants were not independent of one another. A post-positivist stance was adopted in order to acknowledge the researcher’s influence on the findings and their interpretation. Additionally, as the intervention was delivered in a classroom a quasi-experimental design was more suitable than a more rigorous true experimental design owing to practical and ethical reasons, which are discussed in section 3.3.3 and 3.3.4. As stated above, post positivists recognise that it is not always possible to implement a true experimental design when conducting research in a natural setting with real people.

3.3 Research Methods

The research methods used within a study are influenced by the ontological and epistemological stance adopted by the researcher and also by what the researcher wants to find out. Typically, research methods are categorised as either qualitative or quantitative (often referred to as experimental). The defining features of each approach are described below.

3.3.1 Qualitative Research

Qualitative research is an interpretative approach to research in which multiple methods are used to study people in their natural setting (Denzin and Lincoln 2005). Christensen (2007) identifies three main components that are important in understanding the essence of qualitative research. Firstly, qualitative research is *interpretative*, meaning that non numerical data are collected, usually words, from which the researcher has then to extract meaning. Secondly, *multiple methods* of collecting data are often used in an attempt to gain the most accurate understanding possible of the phenomenon being studied. The use of multiple methods is known as ‘triangulation’ (Todd, Nerlich, McKeown and Clarke 2004). Finally, qualitative research is typically carried out in a *naturalistic setting* e.g. the classroom, allowing the researcher to gain a greater understanding of the phenomenon that they are interested in through personal involvement with the participants. Therefore, qualitative methods are typically used by researchers who adopt a constructivist stance. The nature of the research question itself can also lead to practical reasons for adopting qualitative methods (Mertens 2009).

3.3.2 Quantitative/Experimental Research

Experimental research uses quantitative methods and is associated with the positivist and post positivist paradigm. The main advantage of experimental research is that it allows causal relationships to be inferred. The researcher controls and manipulates various variables, in order to see what effect this has on the phenomenon or event that they are interested in (Christensen 2007; Cohen, Manion and Morrison 2002). In experimental research results are typically reported as group means, rather than individual scores. Robson (2005) writes that a comparative weakness of experimental research is that it does not capture the complexity and subtlety of individual human behaviour. However, as experimental research typically uses larger sample sizes and the results are analysed using a range of statistical tests, it can be argued that this makes the findings more applicable to other social contexts (Robson 2005). In the current study quantitative data was gathered as the research questions focus on exploring causal relationships between the intervention and its impact on bullying. It was felt that the most scientific way of establishing a causal relationship was by gathering quantitative data and applying statistical analysis.

3.3.3 'True' Experimental Designs

The essential feature of a 'true' experimental design is that there are two or more conditions to which the participants are randomly allocated. This is believed to eliminate a number of threats to internal validity (see section 3.7.1) (Robson 2005). The random allocation of participants increases the likelihood of equivalence between groups, meaning that any additional factors or characteristics (e.g. age, personality, gender) that may affect the variable that the researcher is concerned with are apportioned out. Therefore, if the groups are made equivalent any confounding variables should be present in both groups (Cohen, Manion and Morrison 2002; Mertens 2009). However, there needs to be enough participants to enable random allocation to act as a powerful control. Furthermore, in educational research it is often impractical and unethical to randomly allocate participants to different conditions owing to the organisational arrangements which already exist in a school setting and the ethical issues around disrupting these for experimental purposes (Cohen, Manion and Morrison 2002).

3.3.4 Quasi Experimental Designs

As stated above, there are often practical and ethical issues in the random allocation of participants when carrying out research in real life settings (Harris 2002; Robson 2005). In such an instance, a quasi-experimental design can be employed. Typically, within quasi experiments there is an experimental group and a control group. However, participants are not randomly allocated; it is the absence of random allocation that defines a quasi-experimental design (Christensen 2007). As the groups are non-equivalent, confounding variables may have an effect on the dependent variable. These confounding variables act as rival hypotheses to explain the research findings (Christensen 2007). However, the equivalence of groups can be enhanced by matching participants on a number of characteristics (e.g. age, gender, occupation etc.). Where matching is not possible, it is recommended that the researcher selects participants who are as similar as possible, or from the same population (Cohen, Manion and Morrison 2002).

3.4 Design

The chapter now turns to the design and implementation of the current study. Firstly the research questions are restated.

3.4.1 Research Questions

The study aims to address the following questions:

- 1) What are the effects of the anti-bullying curriculum on pupils' reported levels of bullying?
- 2) What are the effects of the anti-bullying curriculum on teachers' reports on pupil behaviour?
- 3) What are the effects of the anti-bullying curriculum on pupils' beliefs and attitudes towards bullying?
- 4) What are the effects of the anti-bullying curriculum on the volume of responses given per group on how to intervene in a bullying situation?
- 5) Does parental involvement have an impact on the effectiveness of the intervention?

3.4.2 Final Design

The study employed a pre-test post-test non- equivalent groups, quasi experimental design, with an eight week follow up. The between factor was the school, in which there were three levels: School 1, School 2 and School 3. School 1 received the intervention and School 2 received the intervention plus parental involvement. School 3 acted as the waiting list control group. The within factor, was test time, in which there were three levels: pre-test (May 2010), post-test one (July 2010) and post-test two (September 2010). The measures were completed one week before (pre-test) and one week after (post-test one) the intervention. The measures were also completed eight weeks after the intervention had ended (post-test two), to see if any observed effects were maintained.

3.4.3 Alternative Design

Before reaching the final design an alternative was considered. The researcher reflected on delivering the intervention in one school, and randomly allocating the pupils to the three experimental groups. However, it was decided that this design would have introduced a number of threats to the internal validity of the study (internal validity is discussed in section 3.7.1 and 3.7.2) and would have raised ethical concerns. Furthermore, the alternative design would have required a large school, with three year five classes, to participate. As there are only a few large primary schools within the geographical area in which the research was conducted, this would have limited the number of schools invited to take part, and increased the possibility of having no schools willing to participate.

3.4.4 Independent and Dependent Variables

Independent variables are the factors in which the groups within a study differ, for example, exposure to treatment (Mertens 2009). In this study exposure to the anti-bullying intervention and parental involvement were the independent variables. Dependent variables are the factors which the researcher wants to measure, to determine how they differ between the groups after being exposed to different conditions (Mertens 2009). In this study the dependent variables were reported levels of bullying, behaviour, attitudes towards bullying, knowledge of how to intervene in bullying situations and the effectiveness of parental involvement.

3.4.5 Selection Process

Ten primary schools from a Local Authority (LA) in Yorkshire were invited to take part in the study. The schools were selected as the researcher was already working in them as a TEP. The head teacher from each school was sent a letter explaining the aims of the research and briefly outlining what the study would involve (Appendix 8.1). They were asked to telephone or email the researcher if they were willing to take part in the study. Of the ten schools three schools volunteered to participate. It was important to safeguard pupils included in the study with whom the author was already involved with as a TEP. This was done by being clear about when the author was in school as a researcher (to deliver the intervention and/or discuss the project) or as a TEP

(supporting the school in meeting the needs of individuals and/or groups of pupils with additional needs). It was made clear from the outset that discussions regarding casework would have to be planned and arranged following the usual procedures, with the consent and involvement of parents and pupils.

3.4.6 Allocation of Schools to the Experimental Conditions

The three schools that volunteered to take part in the study were allocated to one of the three experimental conditions. As School 2 expressed a particular concern about the levels of bullying in their school, it was allocated to the intervention plus parental involvement group (as it was hypothesised that this condition would be the most effective). The other two schools were then allocated to the remaining conditions. The school placed in the waiting list control group was given the opportunity to implement the intervention at a later date with the same level of support from the researcher. The three experimental conditions are presented below in Table 3.1.

School	Experimental Condition
School 1	Intervention
School 2	Intervention plus parental involvement
School 3	Waiting list control group

Table 3.1: A table to show the experimental conditions

3.4.7 Contextual Information

The three participating schools were located in a predominantly rural authority in Yorkshire. Schools 1 and 3 were mainstream primary schools and received a judgement of being ‘good’ in their most recent Office for Standards in Education (OFSTED) report. Both these schools are located in more affluent areas than School 2 and have an excellent reputation within the community. They are well known for having an inclusive ethos and providing good provision for children with Special Educational Needs (SEN). School 2 is a mainstream junior school and received an OFSTED judgement as being ‘satisfactory’. It is also in a relatively affluent area as demonstrated by the free school meals data in Table 3.2 below. As stated above School 2 was concerned about bullying, having received a number of complaints from parents. School 2 may have been more

motivated to take part in the study owing to this bullying issue, and therefore more committed and enthusiastic to implement the intervention compared to School 1 and School 3. The author was mindful of this when interpreting the results and this is raised again in section 5.8.2 of the discussion chapter.

All three schools reported having an anti-bullying policy and were asked to provide a copy to the researcher; however this was only done by School 3. All three schools used the Social and Emotional Aspects of Learning (SEAL) resources (DfES 2005) within the school curriculum. The pupils in all schools had not previously received any specific anti-bullying interventions, other than taking part in ‘anti-bullying week’ which takes place annually. This typically consists of whole school anti-bullying assemblies and pupils taking part in activities and discussions within their class around combating bullying. Additional demographic information regarding the three schools is given below in Table 3.2.

Experimental Condition	Pupils on Roll	% of children receiving free school meals	% of children from an ethnic minority population	% of children on SEN register
School 1	436	1.15	6.42	9.86
School 2	179	7.0	1.0	18
School 3	523	1.7	4.0	8.4

Table 3.2: A table to show demographic information regarding the schools

From Table 3.2 it can be seen that School 1 and School 3 are similar in terms of size, percentage of children receiving school meals, ethnic minority population and percentage of children on the SEN register. However, School 2 has a number of differences. School 2 is a junior school which may account for its being only 41% of the size of School 1 and 34% of the size of School 3. Furthermore, School 2 has 7% of pupils with free school meals compared to approximately 1-2 % in Schools 1 and 3. School 2 also has approximately double the percentage of children on the SEN register compared to School 1 and 3. Finally School 2 has a lower number of children from ethnic minority populations.

However, despite the differences between School 2 compared to School 1 and School 3 it was still felt appropriate to include School 2 in the study. Although the percentage of children receiving free school meals in School 2 is higher than Schools 1 and 3 the figure is still less than half the national average of 16% for primary schools (DCSF 2009b). Furthermore, although the percentage of children on the SEN register in School 2 is also higher than Schools 1 and 3 again it is still below the national average of 21% in primary and secondary schools (DCSF 2009b). It should also be noted that there are no national criteria for when a pupil should go on the SEN register and therefore different assessment approaches between schools may exist (OFSTED 2010). Most importantly, it would have been unethical to exclude School 2 once they had reported a concern about bullying. The initial differences between the schools before the intervention are acknowledged by the author but were not deemed significant enough to exclude School 2 from the study. This is explored further in section 5.8.2 of the discussion chapter.

3.4.8 Participants

In total 70 (36 male and 34 female) year five pupils, aged nine to ten, took part in the study. The total number of participants (n) from each school is shown in Table 3.3. The number of males (m) and females (f) is also given.

Experimental Condition	N
School 1	25 (13 m, 12 f)
School 2	23 (13 m, 10 f)
School 3	22 (10 m, 12 f)
Total	70

Table 3.3: A table to show the total number of participants

The number of pupils completing the measures varied slightly between test times, owing to pupil absence. The number of participants who completed the measures at each test time, in each school is presented in Table 3.4 below.

Experimental Condition	n Pre- Test	n Post- Test One	n Post- Test Two
School 1	25 (13 m, 12 f)	25 (13 m, 12 f)	20 (10 m, 10 f)
School 2	22 (12 m, 10 f)	21 (12 m, 9 f)	22 (13 m, 9 f)
School 3	20 (10 m, 10 f)	21 (9 m, 12 f)	22 (10 m, 12 f)

Table 3.4: A table to show the number of participants at each test time

3.4.9 Intervention

‘Defeat Bullying’ is an anti-bullying curriculum that was published by the National Society for Prevention of Cruelty to Children (NSPCC) in 2007, as part of their anti-bullying campaign. At the time of the study the lesson plans were available to download from the internet. A hard copy of the curriculum was not published. The curriculum consists of five lessons, involving a number of whole class, group and individual activities (Appendix 8.2). The key theme for each lesson is presented in Table 3.5.

Lesson	Key Theme
1	Encouraging pupils to explore their own attitudes, values and understanding of bullying
2	Raising awareness of the feelings involved in bullying
3	Encouraging pupils to embrace diversity
4	Raising awareness of keeping safe in vulnerable situations
5	Encouraging pupils to take action against bullying and resolve conflict

Table 3.5: A table to show the key theme of each lesson

The objective of Lesson 1 is to encourage pupils to explore their own attitudes, values and understanding of bullying. To begin as a class the pupils discuss what is meant by the term ‘bullying’. They are then given an actual definition of the term. Following this there is an activity called ‘Where do you Stand?’ Statements such as ‘bullying doesn’t happen in our school’ are read aloud and the pupils have to stand next to a marker labelled either agree, disagree, or not sure. As a class they then discuss their answers. Following this, the class discuss the idea that bullying is everybody’s responsibility and brainstorm things they can do to reduce it. Finally the pupils are given an activity called ‘Bully Diamonds’ in which the pupils are put into small groups and asked to rank different types of bullying in terms of their severity. Again this is followed by a class discussion.

The objective of Lesson 2 is to raise awareness of the feelings involved in bullying. In pairs the pupils are asked to write down all the feelings involved in bullying, felt by the victims, bullies and bystanders. Following this the pupils are given a script describing a bullying incident. Pupils volunteer to take on different roles and perform the script in front of the class. After each line is read the teacher shouts ‘freeze’ and the pupils are given the opportunity to ask them how they are feeling. Finally, the teacher reads a poem called ‘No Problem’ which describes a boy who is new to school. In pairs the pupils are asked to discuss how he is feeling and what they could do to support him. They then discuss their ideas as a whole class.

In Lesson 3 the objective is to encourage pupils to embrace diversity. Pupils take part in an activity called ‘My Special Apple’. All the pupils are given an apple and asked to

look at it carefully; paying attention to any special marks or features. All the apples are put back in a bowl. Pupils then have to try and find their apple. The key message is that we all have similarities and differences that make us unique. The next activity involves the pupils paying compliments to each other. Each pupil has an envelope with their name written on. In small groups everybody writes a compliment for each pupil and puts it in their envelope. Finally the class go outside do an activity called 'Human Dominoes'. They are challenged to link the whole class to show they have lots in common.

Lesson 4 focuses on staying safe in the community. The lesson starts by discussing the issue that bullying can happen in lots of places in and out of school. The pupils are encouraged to think of places and times when bullying is more frequent both in school and the neighbourhood. The lesson then moves on to consider the advantages and pitfalls of new technology such as mobile phones and social networking sites, with a focus on the dangers that they pose in terms of bullying. As a class the pupils list all the new technologies that children and young people use. In groups they are then asked to consider the advantages of each one and the dangers that they pose in terms of bullying. Next, each group is asked to pick one technology and write guidelines on how to use it safely. Each group then shares their poster with the rest of the class.

The objective of Lesson 5 is to encourage pupils to take action against bullying and resolve conflict. The pupils start by discussing who they can get support from if they are being bullied. They each record a personal network of people that they can get help and advice from. Following this a five step problem solving model is shared with the class. This can be used in bullying situations and encourages pupils to make sensible and safe decisions. Working in small groups the pupils are giving different bullying related problems and ask to apply the problem solving model to generate solutions. Each group then picks one problem to feedback to the whole class.

In summary, the aim of the curriculum is to develop anti-bullying attitudes, provide opportunities to discuss the feelings of involved in bullying, develop strategies and skills to intervene positively and discuss the moral dilemma that pupils face when deciding whether or not to intervene. The suggestion here is that the overall effect of this is to create an anti-bullying norm within the class. According to social identity

theory (Tajfel and Turner 1979) if an anti-bullying norm is achieved, pupils will be motivated to adhere to this in order to maintain a positive social identity within the class.

3.4.9.1 Refining the Intervention

The 'Defeat Bullying' (NSPCC 2007) lesson plans were originally developed for pupils in key stage one (KS1) and key stage two (KS2). Within each lesson plan a number of activities are suggested, too many to cover in one lesson. The NSPCC (2007) intended teachers to select the activities for each lesson that they felt appropriate for their class. For the purpose of the research it was important that the same activities were delivered in School 1 and School 2. In order to decide which activities to include and exclude, a focus group of twenty teachers was held. The teachers were Advisory Teachers (ATs), with a range of teaching experience, working within the same team as the researcher. The ATs were split into groups of four and each given a lesson plan to discuss for approximately 20 minutes (which they had been emailed a copy of the week before). The points raised by the ATs supported the researcher in finalising each lesson plan (Appendix 8.3). The researcher also developed homework to go with each lesson (Appendix 8.4) which the pupils in School 2 were asked to complete every week with an adult at home.

3.4.10 Procedure

The intervention was delivered by the class teacher to the year five pupils in School 1 and School 2 over a period of five weeks. The curriculum consisted of five lessons each lasting approximately 1 ½ hours. The lessons were delivered by the class teacher and facilitated by the researcher.

3.4.10.1 Parental Involvement

In addition to receiving the intervention, School 2 also involved the pupils' parents. This meant that the intervention extended into another sphere of influence of within the ecological model (Swearer and Espleage 2004). Prior to the intervention, parents of the year five pupils in School 2 were invited to attend a one hour anti-bullying workshop, developed and run by the researcher (Appendix 8.5). The type of parental involvement

intended through the workshop was what Epstein (1992) refers to as ‘communicating’. This type of parental involvement aims to develop positive home/school links and share information with parents about what their child is doing in school. The aim of the workshop was to raise awareness of bullying and provide information about the anti-bullying curriculum and weekly homework. Only three parents attended the workshop, others did not possibly owing to other commitments. Therefore a follow up information leaflet was sent to all the parents invited, primarily to inform those who were unable to attend (Appendix 8.6). Other possible reasons as to why so few parents attended the workshop are raised in section 5.7.3 of the discussion.

As stated above, pupils in School 2 were also given a piece of homework every week linked to the curriculum, which they were asked to complete with an adult at home and return the following week. The type of parental involvement intended here was pedagogic support which within the literature is referred to as ‘teaching at home’ (Epstein 1992). The homework was intended as a joint activity for the pupil and parent to complete together. An emphasis was placed on the importance of the discussion between the pupil and parent generated by the homework activity, rather than it being viewed as a writing exercise. It was hoped that by the parent modelling and reinforcing anti-bullying attitudes and values that this would then have an impact on the pupil’s own attitudes, values and behaviour. The pupils and parents were informed that it was acceptable for the parent supporting the activity to make a brief record of the points discussed on the homework sheet. Parents were informed of this via the anti-bullying workshop and/or information leaflet sent home. The pupils were still asked to return the homework sheet every week so that the researcher could keep count of how many pupils had completed it. The homework was developed by the researcher and was directly linked to the previous lesson. The number of pieces of homework returned each week by the pupils in School 2 is presented below in Table 3.6.

Week Number	Homework returned (n = 23)
1	10
2	14
3	13
4	7
5	7

Table 3.6: A table to show the number of pieces of homework returned each week

From the table above it can be seen that the amount of homework returned increased after week one but decreased following this. Possible explanations for this are considered in section 5.7.3 of the discussion.

To summarise, the parental involvement *intended* in the study was two-fold. The first type of parental involvement intended was to promote better communication between the home and school with regards to bullying by inviting parents to an anti-bullying workshop. The second type of parental involvement intended was to encourage learning at home via the homework tasks. However, as the attendance at the anti-bullying workshop was so low the effects of improving the communication between parents and school will have been minimal. Therefore the main focus of the study became the impact of parents supporting their child with homework on the effectiveness of the anti-bullying intervention.

3.5 Measures

Before describing in turn the measures used in the study it is necessary to describe briefly the issue of reliability, which is concerned with the consistency of measures (Bryman 2008; Scott and Morrison 2007).

3.5.1 Issues of Reliability

Bryman (2008) identifies three factors to consider when deciding whether a measure is reliable or not. The first factor is *stability*; this refers to whether or not a measure is stable over time and can be assessed using the *test retest* method. This is when a test is administered to a group, and then re-administered some time later. Little variation in the scores obtained at each test time indicates that the test has good stability. The second

factor is *internal reliability*, which refers to the consistency between the items within a test. Internal reliability can be assessed using the *split half* method. This is when the questions within a test are divided into two. Participants are asked to complete both halves of the test. A similar result for each half of the test is an indication of good internal reliability. There are also statistical procedures to measure internal reliability, the most common being Cronbach's coefficient alpha. It is generally accepted that a measure should have a minimum Cronbach's alpha value of 0.7 (Bryman 2008).

Finally, *inter-observer consistency* refers to whether or not the measures used are scored consistently. This is particularly relevant when subjective decisions have to be made, for example in observations where behaviour is classified. Inter-observer consistency can be assessed by comparing the scores of two or more observers and checking for agreement. The reliability of the measures used in the current study are discussed when each measure is described.

3.5.2 My Life in Schools Checklist

Reported levels of bullying were measured using the My Life in Schools Checklist (Arora and Thompson 1987; Smith 1992), which is a 39-item anonymous questionnaire. The questionnaire is made up of statements describing positive events (for example, '*during this week another pupil lent me something*') and negative events (for example, '*during this week another pupil said they'd beat me up*'). The statements describe either friendly behaviour, bullying behaviour or aggressive behaviour. Children are asked to indicate whether they have experienced the situation 'not at all', 'only once' or 'more than once' in the last week (Smith 1992).

Six key items from the questionnaire are used to calculate a Bully Index and General Aggression Index. These items are, 'tried to kick me', 'said they'd beat me up', 'tried to make me give them money' 'tried to hurt me', 'tried to break something of mine' and 'tried to hit me'. All the other items are there to draw attention away from the fact that the main interest is in these six items that are considered to be bullying or aggressive behaviour (Arora 1999). The method used to calculate the Bully Index and General Aggression Index can be found in Appendix 8.7. Arora and Thompson (1987) state that

schools are more likely to identify reductions in the Aggression Index before the Bully Index.

Arora (1999) summarises the data obtained from 31 schools that completed versions of the 'My Life in Schools Checklist'. The schools varied in type (one college, two special schools and 11 secondary and 17 primary schools), size and location. Arora (1999) reported that the Bully Index in the primary schools ranged from 4-18 with 11 being the average and median. In the secondary schools the range was from 2-14, with the average being 8 and the median 11. Therefore, reported levels of bullying were higher in the primary school. This is consistent with research discussed in the literature review (Oliver and Candappa 2003; Whitney and Smith 1993). Those schools that provided a separate breakdown for gender found that reported bullying was typically three of four times lower in girls than boys.

3.5.2.1 Reliability of the My Life in Schools Checklist

A split half reliability test was carried out with 51 pupils from year eight and nine in order to assess the internal reliability of the My Life in Schools Checklist (Arora and Thompson 1987; Smith 1992). The results indicate good internal reliability, as the results were significant at the $p < 0.0005$ level (Sharp 1999). The author was unable to find any tests into the stability of the My Life in Schools Checklist measures, which assess whether or not a measure is stable over time. Furthermore, no tests of inter-observer consistency were found, however, this is not *as* relevant as the scoring process for the My Life in Schools Checklist (Arora and Thompson 1987; Smith 1992) is unambiguous and no subjective decisions have to be made.

3.5.3 Pro-Victim Scale

The Pro-Victim Scale (PVS) (Rigby and Slee 1991a) was used to measure the pupils' beliefs and attitudes towards bullying. The PVS is a ten item anonymous questionnaire for pupils aged nine to eighteen. The questionnaire contains five statements that support bullying (for example, '*it's funny to see kids get upset when they are teased*') and five statements that disapprove of bullying (for example, '*it makes me angry when a kid is picked on for no reason*'). The pupils are asked to indicate how strongly they agree with each statement by ticking either agree, disagree or unsure. The lowest possible score is

ten and the highest is thirty. The higher the score gained, the more anti-bullying or pro-victim attitude of the pupil. A score below twenty indicates a pro-bullying or anti-victim attitude (Sharp 1992).

3.5.3.1 Reliability of the Pro-Victim Scale

Rigby (1997) assessed the internal validity of the PVS (Rigby and Slee 1991a). The measure was administered to 2700 boys and 2350 girls (age nine to eighteen). Rigby (1997) reported Cronbach's alpha coefficients of 0.81 and 0.78, which suggests good internal reliability. The author was unable to find any tests into the stability of the PVS measures, which assess whether or not a measure is stable over time. Furthermore, no tests of inter-observer consistency were found, however, this is not *as* relevant as the scoring process for the PVS (Rigby and Slee 1991a) is unambiguous and no subjective decisions have to be made.

3.5.4 SDQ

The class teachers were asked to complete the teacher's version of the Strength and Difficulties Questionnaire (SDQ) devised by Goodman (1997) (Appendix 8.8) for the first fifteen children on the register. The SDQ is a brief behavioural questionnaire, consisting of twenty-five items. Five different areas of social and emotional behaviour are assessed; these are emotional symptoms, conduct problems, hyperactivity, peer problems and prosocial skills. The teachers are asked to rate statements such as: x is '*kind to younger children*' by ticking either 'not true', 'somewhat true', or 'certainly true'. It is possible to calculate an overall total difficulties score and a prosocial score for each pupil. This score can then be categorised as falling within the 'normal' 'borderline' or 'abnormal' range.

3.5.4.1 Reliability of the SDQ

Goodman (2001) investigated the reliability of the SDQ with a nationwide sample of 10,438 children and young people aged five to fifteen. From the sample, the SDQ was completed by 96% of parents, 70% of teachers and 91% of children age 11-15. The reliability of the measure was reported to be satisfactory, with a reported Cronbach's alpha coefficient of 0.73 and good test retest stability after four to six months. Furthermore, Goodman (1997) examined the correlation between the SDQ and Rutter

Questionnaire (Rutter 1967; Elander and Rutter 1996). The Rutter Questionnaire is a well-established behavioural screening tool. The SDQ and Rutter Questionnaire were completed by the parents and teachers of 403 children attending dental and psychiatric clinics. The scores obtained for the two measures were highly correlated. Given the well-established reliability of the Rutter Questionnaire (Elander & Rutter, 1996), the high correlation between the scores provides support for the reliability of the SDQ.

3.5.5 Vignettes

Vignettes are a research method typically used in qualitative research and aim to elicit perceptions, opinions, attitudes and/or beliefs by asking participants to respond to a short story depicting a scenario (Barter and Reynold 1999). Finch (1987 pg. 105) describes vignettes as *'short stories about hypothetical characters in specified circumstances whose situation the interviewee is invited to respond'*. Vignettes provide a less personal and threatening way of exploring sensitive issues such as bullying, as participants are asked to talk about the characters in the story rather than themselves (Barter and Reynold 1999). Vignettes are often used alongside other research methods in order to enhance existing data or explore issues that other methods are unable to address (Hazel 1995; Hughes 1998). They can be presented to individual participants or to a small group (Wilkinson 1998). Currently, there is limited literature on the use of vignettes in groups (Barter and Reynold 1999). The biggest challenge of vignette methodology is that a direct link between beliefs and actions cannot be assumed (Finch 1987; Hughes 1998). However, by using vignettes alongside other research methods the extent to which participant responses relate to actual behaviour can be explored further.

Two vignettes were developed by the researcher in an attempt to measure a change in knowledge of how to intervene in a bullying situation. Vignette one was used for the pre-test and post-test two measures and vignette two was used for the post-test one measure (Appendix 8.9). In small mixed sex groups of four to five, the pupils were asked to produce a list of ways in which they could intervene to help the victim. As stated above vignettes are typically used within qualitative studies, however, the goal in the current study was to explore the change in the volume of responses given by each group. This was so that the data could be analysed statistically to see if there was a

‘cause and effect’ relationship between the intervention and pupils knowledge of how to intervene in bullying situations.

A number of benefits of presenting the vignettes to groups of pupils rather than individually were anticipated. Firstly it was predicted that the group situation would encourage quieter members of the class to share their ideas. If pupils were asked to give their responses orally in a 1-1 situation with the researcher this could have led to shyness effects Secondly, the group situation meant that only one pupil had to scribe. If pupils were asked to individually record their responses, this may have disadvantaged those pupils with writing difficulties. However, it is acknowledged in section 5.9.4 of the discussion chapter that group processes such as a real or perceived pressure to conform to the ideas of the group may have played a role in the type of responses given.

Each vignette consisted of a short paragraph describing a bullying situation. The first vignette was based on the beginning of a short story included in the anti-bullying week resources in the SEAL materials (DfES 2005). The story was initially intended to be read as a whole school assembly. However part of it was adapted by the researcher to form a short bullying scenario based on a girl called Sarah who gets bullied at playtimes by a group of girls. The second vignette was similar in length, style and format but this time based on a boy called Daniel who gets bullied on the school bus by a group of boys. It was decided that girls would be used in the first vignette and boys in the second in order to represent both genders. If just boys or just girls has been used this could have unfairly stigmatized one gender. It was important that the vignettes were believable, appropriate for the pupils’ age, describing situations they could relate to and using language they could understand. On reflection, because the vignettes were gender based this may have influenced responses given by the boys and girls. This point is considered in 5.9.4 of the discussion, along with other issues of reliability and validity. The piloting of the vignettes is discussed in section 3.6.1.

3.5.6 Administration of Measures

Both the My Life in Schools Checklist (Arora and Thompson 1987; Smith 1992) and PVS (Rigby and Slee 1991a) were administered by the researcher. The pupils were seated in a way to maximise privacy and told how to complete the questionnaire. Each

question was read aloud by the researcher. In terms of the vignettes, the pupils were put into mixed sex groups of four to five, and given a copy of the vignette. Each group was asked to nominate a scribe. The vignette was then read aloud by the researcher. The groups were given ten minutes to write down as many ways in which they could intervene to support the victim. The scribe was reminded to write down the ideas from *all* group members. Finally, the SDQ was completed independently by the teachers.

3.5.7 Statistical Analysis

Given the nature of the data being gathered it was important to ensure that individual responses given by pupils were anonymous. Firstly, this was considered necessary in terms of gaining consent from the pupils and parents as they may have felt uncomfortable about agreeing to divulge sensitive information without this assurance. Secondly, as bullying is such a sensitive topic honest responses to the questionnaires may not have been obtained from pupils. Cohen, Manion and Morrison (2002) state that even a coding scheme can pose a threat to the validity of the answers given (e.g. giving each pupil and their questionnaire the same number or symbol at each test time). Therefore, in order to gain maximum sample size and validity of the responses given, it was decided not to code the questionnaires. This meant that the analysis of the data from the My Life in Schools Checklist (Arora and Thompson 1987; Smith 1992) and PVS (Rigby and Slee 1991a) were limited to statistical tests that compare means.

3.6 Piloting

Pilot studies are often used to identify any technical issues with the methods of data collection, before gathering data in the final study (Robson 2005). They also provide the researcher with an opportunity to familiarise themselves with the intervention, highlight any problems that may have been missed at the design stage and ‘fine tune’ the procedure (Harris 2002). The decision was made to pilot the vignettes and the first lesson of the anti-bullying curriculum. The pilot took place with a year five/six class (n= 15) in a school that was not invited to take part in the final study owing to the small class sizes.

3.6.1 Piloting of the Vignettes

As the vignettes were written by the researcher a pilot study was necessary to explore whether or not they were an adequate stimulus for measuring knowledge of how to intervene in a bullying situation. It was also important to find out if they each produced a similar number of responses. Initially three vignettes were written and it was intended that a different one would be used at each test time. The pupils were split into three groups of five, each group was asked to identify a scribe. The first vignette was read aloud and the groups were then given ten minutes to record all the ways in which they could support the victim. The same procedure was then followed for the other two vignettes. From the pilot it was clear that one of the vignettes generated far more responses than the other two. Therefore, the decision was made to exclude this vignette as it would have distorted the results. In the final study vignette one was used for the pre and post-test two, and vignette two was used for the post-test one.

During the pilot of the vignettes two other issues were identified. Firstly, some pupils complained that the scribe for their group did not write down their ideas and focused more on their own. In the final study it was emphasised that the scribe should write down all the ideas given. Secondly, before the pilot study began the teacher asked the researcher to change a name used within one of the vignettes. This was because it was the same name as one of the pupils in the class and she felt he may get upset by it. In the final study the researcher checked with the teacher that the names used in the vignettes were appropriate.

3.6.2 Piloting of Lesson One

Following the pilot of the vignettes the first lesson of the anti-bullying curriculum was delivered to the class in order to identify any problems with the content of the materials before being used in the final study. The lesson was delivered by the class teacher and facilitated by the researcher. The pilot confirmed that the length and content of the first lesson was appropriate. Therefore, the researcher was confident to proceed with the lesson plans in the final study.

3.7 Internal and External Validity

When designing a study careful consideration of the validity of the methods used to gather the data is important. Issues of validity are discussed in the following sections.

3.7.1 Internal Validity

Internal validity is the extent to which it can be supposed that there is a causal relationship between the independent and dependent variable. Good internal validity means that any observed change to the dependent variable is due to the effect of the independent variable, and not other factors. Cook and Campbell (1979) identify twelve threats to internal validity. These are briefly outlined below.

- 1) '*History*' is a threat when an observed effect may be due to an event that happened during the course of the study, rather than exposure to the intervention.
- 2) '*Maturation*' is a threat when an observed effect may be due to the biological and psychological changes of the participants between the pre and post-test, rather than the intervention itself.
- 3) '*Testing*' is a threat when an observed effect occurs as a result of the participants becoming familiar with the materials in the pre-test, which then affects their responses in the post test.
- 4) '*Instrumentation*' is a threat when the measure used changes between the pre and post-test, having an effect on the results.
- 5) '*Statistical regression*' is a threat when participants are chosen because they have unusual scores (e.g. very high or low). Later testing will typically give less unusual scores which are closer to the population mean. This is referred to as '*regression to the mean*'.
- 6) '*Selection*' is a threat when any observed effects may be due to initial differences between the groups.

- 7) '*Mortality*' is a threat when the participants that drop out during the study has an impact on the results.
- 8) '*Selection by maturation interaction*' is a threat when an observed effect may be due to the different groups growing apart or maturing at different rates, rather than the effect of the intervention itself.
- 9) '*Ambiguity about causal direction*' is a threat when, within an A-B relationship it is unclear as to whether A causes B, or B causes A.
- 10) '*Diffusion of treatments*' is a threat when one group learns information or unintentionally receives aspects of a treatment that was only intended for the other group.
- 11) '*Compensatory equalisation of treatments*' is a threat when the control group is given 'special treatment' as it is felt to be unfair that they are not receiving the intervention.
- 12) '*Compensatory rivalry*' is a threat when the control group is aware of what the intervention group is receiving, and therefore, develop a competitive attitude.
- (Cook and Campbell 1979; Mertens 2009; Robson 2005)

Another factor that can affect the internal validity of a study, not mentioned by Cook and Campbell (1979), but relevant to the study is 'treatment integrity'. This is otherwise known as 'treatment fidelity' (Cochrane and Laux 2008; Mertens 2009). This is the extent to which the intervention is implemented as intended by the researcher (Mertens 2009). Treatment integrity is needed so that valid conclusions about the effectiveness of the intervention can be made and replication studies conducted. Treatment integrity can be increased by providing training on the intervention to be delivered, supervision and/or observations of the person implementing the intervention (Cochrane and Laux 2008; Mertens 2009). More indirect methods such as self-reports and rating scales can also be use. However, although these are less intrusive than other methods such as observations, they can be more subjective (Cochrane and Laux 2008).

3.7.2 Internal Validity of the Study

Careful consideration was given to the internal validity of the study during the design phase. The steps taken to reduce the twelve threats to the internal validity of this study are outlined.

- 1) *'History'*- It was decided that any significant historical events (e.g. unique upsetting incidents, concurrent interventions taking place) that may have affected the results of the study would be noted by the researcher and taken into account when interpreting the result.
- 2) *'Maturation'*- The fact that the study took place over a short period of time means that any threats of maturation were minimal.
- 3) *'Testing'*- It was felt that this may be an issue; however the researcher was aware that this would become clear if there was an observed effect in the control group.
- 4) *'Instrumentation'*- Three out of the four measures used remained the same at each test time which eliminated this threat. The vignette used between the pre-test and post-test one were different. However, piloting of the vignettes found that both produced a similar number of responses from the pupils.
- 5) *'Statistical regression'*- Statistical tests were carried out to check the data was normally distributed and look for statistically significant differences between the schools at the pre-test.
- 6) *'Selection'*- The researcher tried to eliminate this threat as far as possible by inviting schools to take part in the study from a similar geographical location and a similar intake of pupils. However, this does not remove differences between the groups such as, the school ethos, behaviour and attitudes of the pupils.
- 7) *'Mortality'*- Again, as the study took place over a relatively short period of time this threat was reduced.

- 8) '*Selection by maturation interaction*'- As already stated for 'maturation', as the study took place over a short period of time this should be minimal.
- 9) '*Ambiguity about causal direction*'- This was not considered to be a threat to the internal validity of the study.
- 10) '*Diffusion of treatment*'- As the three groups were in different schools the pupils were not able to unintentionally receive aspects of the treatment from one another, which was only intended for the other group.
- 11) '*Compensatory equalisation of treatments*' – The quasi experimental design reduced the threat of '*compensatory equalisation of treatments*'. If an RCT design has been employed in one school only, the control group may have been given 'special treatment' by the staff if they felt that it was unfair that they were not receiving the intervention.
- 12) '*Compensatory rivalry*'- As the control group were not exposed to the other pupils receiving the intervention this reduced the likelihood of them developing a competitive attitude. Furthermore, parents, staff and pupils in School 3 were aware they were in the waiting list control group, so would be given the opportunity to deliver the intervention at a later date.

Finally, a number of measures were taken to ensure that 'Defeat Bullying' was implemented as intended; as stated above this is known as 'treatment integrity' or 'treatment fidelity' (Cochrane and Laux 2008; Mertens 2009). Two of the seven studies from the systematic literature review highlighted treatment integrity as a limitation (Beran, Tutty and Steinrath 2004; Rahey and Craig 2002), therefore the researcher was eager to pay attention to this issue in the current study. The researcher met with the class teachers on a weekly basis before the next lesson was taught. The aim of these meetings was to discuss the lesson content and its delivery, in order to promote treatment integrity. The meetings gave the teachers the opportunity to ask questions and seek clarification in terms of how each activity should be taught. The importance of adhering to the lesson plans was explained and made clear to the teachers. The researcher was also present during the delivery of the five lessons in each school to

further ensure that the lessons were delivered as intended. This was made easier for the class teacher by the lesson plans being clear and relatively simple to follow. However, no actual measure of treatment integrity was taken which weakens the claim that the curriculum was delivered as intended and poses a threat to validity.

3.7.3 External Validity

External validity, otherwise known as ‘generalizability’ (Robson 2005) refers to whether or not the results of a study can be applied to other populations and settings. Mertens (2009) states that a tension exists between internal and external validity; it can be difficult to generalise findings gained within a highly controlled environment to other, more naturalistic situations. However, when designing a study it is the role of the researcher to try and maximise both the internal and external validity. Cook and Campbell (1979) identify three main threats to external validity within experimental research. These are stated below.

- 1) ‘*Interaction of selection and treatment*’ refers to the extent to which the participants used in a study are representative of the wider population.
- 2) ‘*Interaction of setting and treatment*’ is concerned with the extent to which the findings of a study can be generalised to other contexts or settings.
- 3) ‘*Interaction of history and treatment*’ refers to the extent to which the findings of a study can be generalised to other periods of time.

3.7.4 External Validity of the Study

In terms of the external reliability, the findings of the study can only be generalised to year five pupils attending schools within a similar geographical location, and with a similar intake of pupils to those used in the study.

3.8 Ethical Considerations

An ethical awareness was maintained throughout the study with a primary concern for the welfare and protection of the participants. Wellington (2000) states that being ethical is the *main* criterion for educational research and that ethical consideration should be made throughout the research process. A submission was made to the Ethics Committee at the University of Nottingham outlining details of the study and the ethical considerations made. The submission was accepted as meeting the ethical requirements for research as stated by the University. The ethical considerations made by the author are in line with the 'Code of Ethics and Conduct' published by the British Psychological Society (BPS) (2009).

3.8.1 Informed Consent

Informed consent refers to providing participants with enough information about the study to allow them to make an informed decision as to whether or not they want to take part (Harris 2002). The BPS (2009) states that participants should be given ample opportunity to understand the nature and purpose of the research and made aware of any potential risks, allowing them to make an informed decision based on all the relevant information. In order to gain informed consent a letter was sent to parents and pupils providing them with information regarding the purpose and nature of the research, the procedures to be used and duration of the study (Appendix 8.10). This was written in terms that they could reasonably be expected to understand. Parents were asked to discuss the study with their child. If they both agreed, the parent and pupil were asked to sign the consent slip and return to school. It was made clear that both parents and the pupil had the right to refuse to take part in the study and were free to withdraw their child/themselves at any stage without negative consequences. However, all the parents and pupils asked gave consent and nobody asked to withdraw from the study.

3.8.2 Anonymity

The meaning of anonymity is that any information given by the participants should not in any way reveal their identity. A participant is considered anonymous when the researcher cannot identify the participant from the information given. Thus, a questionnaire that has no identifying marks such as name, address, date of birth or

coding symbols is totally anonymous (Cohen, Manion and Morrison 2002). The self-report questionnaires completed by the pupils were totally anonymous (the reasons for this are given in section 3.5.7). The SDQ completed by the teachers *did* ask for the pupil's names and dates of birth. Additionally, the pupils in each group wrote their names on their responses to the vignettes. So these two measures were not totally anonymous, however, all the data gathered are reported anonymously. This leads onto the issue of confidentiality.

3.8.3 Confidentiality

The essence of confidentiality within research is that although the researcher may be able to identify participants from the information given, they will not let this be known publicly (Cohen, Manion and Morrison 2002). The name of the schools and participants remain anonymous throughout to ensure that confidentiality is upheld. Ensuring confidentiality is especially important for research addressing sensitive topics such as bullying. Participants may refuse to take part or not respond to questionnaires honestly if the assurance of confidentiality is weak or vague (Kimmel 1988).

3.8.4 Protection of Participant

Researchers have a responsibility to protect their participants. Any potential risks to the participant's psychological well-being, physical health or personal values should be identified and eliminated (BPS 2009). Before agreeing to the intervention schools were made aware of potential risks identified by the researcher. Firstly, although unlikely, there was a possibility that the intervention could have led to an increase in levels of bullying due to the suggestibility of the vignettes and some of the activities within the lessons which describe bullying incidents. Some pupils may have decided to imitate these behaviours. Secondly, schools were made aware that some children may have found the content of the vignettes upsetting, particularly if they were worried about bullying or had been bullied in the past. These risks were discussed and it was agreed that if such incidents did occur the school would be encouraged to refer to their anti-bullying policy (which normally outlines clear procedures for dealing with bullying incidents). The class teachers also had the opportunity to discuss any bullying incidents that arose during the study with the researcher before or after each lesson.

3.8.5 Debriefing

The debriefing of participants is an essential part of the research process (Harris 2002). At the end of a study participants should be informed of the outcomes and any unforeseen harm, discomfort or misconceptions should be identified and dealt with appropriately (BPS 2009). The class teacher and students were debriefed at the end of the study and informed broadly of the results found. It is intended that an executive summary of the research findings will be presented to the LA and made available for parents and school.

4. Results

4.1 Introduction

In this chapter each research questions is addressed by presenting and analysing the relevant data. For each set of data the following steps are taken

- 1) Presentation of the mean scores
- 2) Exploration of the data to see if the requirements for parametric testing are met (see section 4.2)
- 3) Statistical analysis
- 4) Key findings

The data were analysed using SPSS: Statistical Package for the Social Sciences, Version 18.0. An overall summary of the key findings is given at the end of the chapter.

4.2 Parametric and Non-Parametric Tests

Before analysing a set of data the decision has to be made about whether to use parametric or non-parametric tests. Parametric tests make certain assumptions about the *parameters* of the population from which the data have been collected (Searle 2009). These are set out below.

- 1) That the data are *normally distributed*. This means that most of the scores in the data set are close to average, and are represented as a bell shaped curve that is approximately symmetrical about the mean.
- 2) That the samples being compared have approximately *equal variance*, meaning that the spread of scores is similar between groups.
- 3) That there are no *extreme scores* within the data set. This is because many parametric tests use the mean as the measure of central tendency. As mean scores are distorted by extreme scores, then any parametric test that uses the mean will also be distorted.

(Dancey and Reidy 2007)

Parametric tests have a greater statistical power compared to their non-parametric equivalents; therefore it is preferable to use them providing the requirements above are met. However, if the data do not meet these requirements non-parametric tests should be used (Brace, Kemp and Snelgar 2009). There are several ways of exploring whether or not a set of data are suitable for parametric testing. These are discussed in turn.

4.2.1 Skew and Kurtosis

Parametric tests assume that the data are normally distributed. Skewness and kurtosis scores can be used to examine the symmetry (skewness) and peakedness (kurtosis) of a distribution (Schinka, Velicer and Weiner 2003). SPSS gives a measure of skewness and kurtosis. In terms of skewness, a positive value indicates a positive distribution, which has an extended tail to the right. A negative value indicates a negative distribution, which has an extended tail to the left. A value of zero indicates a normal curve (Dancey and Reid 2007). In terms of kurtosis, a positive value indicates that the distribution curve is steep (*leptokurtic*) and a negative value indicates that the distribution curve is flat (*platykurtic*). A value of zero indicates a normal curve (*mesokurtic*) (Howitt and Cranmer 2005). To find out if the skewness and kurtosis is significant z-scores can be calculated. This is done by dividing the skewness value by the standard error of the skewness; the same can be done for the kurtosis (Schinka, Velicer and Weiner 2003). If the z score is 1.96 and above, or -1.96 and below, then the skewness/kurtosis is significant at the 5% level (Howitt and Cranmer 2005).

4.2.2 Shapiro-Wilk Test of Normality

There are two main statistical tests to assess whether or not a set of data deviate from the norm; these are the Kolmogorov-Smirnoff and Shapiro-Wilk tests (Evans 2009). Both can be conducted in SPSS. The Shapiro-Wilk test is particularly useful when the sample size is small (Peers 1996). The Shapiro-Wilk test compares the sample data to normally distributed data with the same mean and standard deviation (Evans 2009). If the tests results *are* significant (p is <0.05) then the data deviate significantly from the norm, therefore normality *cannot* be assumed. If the test results are *not* significant (p is >0.05) then the data does not deviate significantly from the norm, therefore normality *can* be assumed (Evans 2009).

4.2.3 Levene's Test of Variance

As already stated, parametric tests assume equality of variances between samples (Dancey and Reidy 2007). This assumption can be assessed using Levene's test, which can be conducted in SPSS. If Levene's test *is* statistically significant (p is <0.05) then the variances *are* significantly different from one another and equality of variances *cannot* be assumed. If Levene's test is *not* statistically significant (p is >0.05) then the variances are *not* significantly different from one another, therefore equality of variances *can* be assumed (Dancey and Reid 2007).

For each set of data the skewness and kurtosis, z-scores, Shapiro-Wilk and Levene's test were used to decide whether or not the data meet the requirements for parametric testing. The chapter will now turn to the research questions and hypotheses.

4.3 Research Questions and Hypotheses

The study aimed to investigate the effectiveness of 'Defeat Bullying' (NSPCC 2007), an anti-bullying curriculum. Exposure to the intervention and parental involvement were the independent variables. There were three conditions:

School 1- Intervention

School 2- Intervention plus parental involvement

School 3- Waiting list control group

The dependent variables were reported levels of bullying, teachers' reports on pupil behaviour, attitudes towards bullying, knowledge of how to intervene in bullying situations and the effectiveness of parental involvement. The research questions and hypotheses are restated below.

1) What are the effects of the anti-bullying curriculum on pupils' reported levels of bullying?

Experimental Hypothesis: There will be a statistically significant difference between the experimental groups and control in levels of bullying following the intervention.

Null Hypothesis: There will be no statistically significant difference between the experimental groups and control in levels of bullying following the intervention.

2) What are the effects of the anti-bullying curriculum on teachers' reports on pupil behaviour?

Experimental Hypothesis: There will be a statistically significant decrease in difficult behaviour and an increase in prosocial behaviour in the experimental groups compared to the control group following the intervention.

Null Hypothesis: There will be no statistically significant decrease in difficult behaviour or increase in prosocial behaviour in the experimental groups compared to the control group following the intervention.

3) What are the effects of the anti-bullying curriculum on pupils' beliefs and attitudes towards bullying?

Experimental Hypothesis: There will be a statistically significant increase in anti-bullying/pro-victim attitudes in the experimental groups compared to the control group following the intervention.

Null Hypothesis: There will be no statistically significant increase in anti-bullying/pro-victim attitudes in the experimental groups compared to the control group following the intervention.

4) What are the effects of the anti-bullying curriculum on the volume of responses given per group on how to intervene in a bullying situation?

Experimental Hypothesis: There will be a statistically significant increase in knowledge of how to intervene in bullying situations in the experimental groups compared to the control groups following the intervention.

Null Hypothesis: There will be no statistically significant increase in knowledge of how to intervene in bullying situations in the experimental groups compared to the control groups following the intervention.

5) Does parental involvement have an impact on the effectiveness of the intervention?

Experimental Hypothesis: There will be a statistically significant greater effective in School 2 compared to School 1 in terms of the overall effectiveness of the intervention.

Null Hypothesis: There will be no statistically significant greater effective in School 2 compared to School 1 in terms of the overall effectiveness of the intervention.

4.4 What are the effects of the anti-bullying curriculum on pupils' reported levels of bullying?

The measure used to explore this question was the My Life in Schools Checklist (Arora and Thompson 1987; Smith 1992) in which a Bully Index and General Aggression Index can be calculated (Appendix 8.7).

4.4.1 Bully Index

4.4.1.1. Presentation of Means

The Bully Index represents the mean percentage of pupils that reported bullying during the current week on the 'My Life in Schools Checklist' (Arora and Thompson 1987; Smith 1992). How to calculate the Bully Index is outlined in Appendix 8.7. The Bully Index in the three schools at each test time are presented in Table 4.1 and as a bar chart in Figure 4.1. The data used to calculate each Bully Index are in Appendix 8.11.

Experimental Condition	Pre-Test Bully Index	Post-Test One Bully Index	Post-Test Two Bully Index
School 1	2.00 (SD = 4.35, n=25)	2.00 (SD = 10.36, n=25)	0.83 (SD = 2.74, n=20)
School 2	15.20 (SD =4.35, n=22)	14.48 (SD = 10.16, n=21)	12.85 (SD =12.34 , n=22)
School 3	2.50 (SD = 2.04, n=20)	0.00 (SD =0.00, n=21)	0.00 (SD =0.00, n=22)

Table 4:1 A table to show the Bully Index in the three schools at each test time

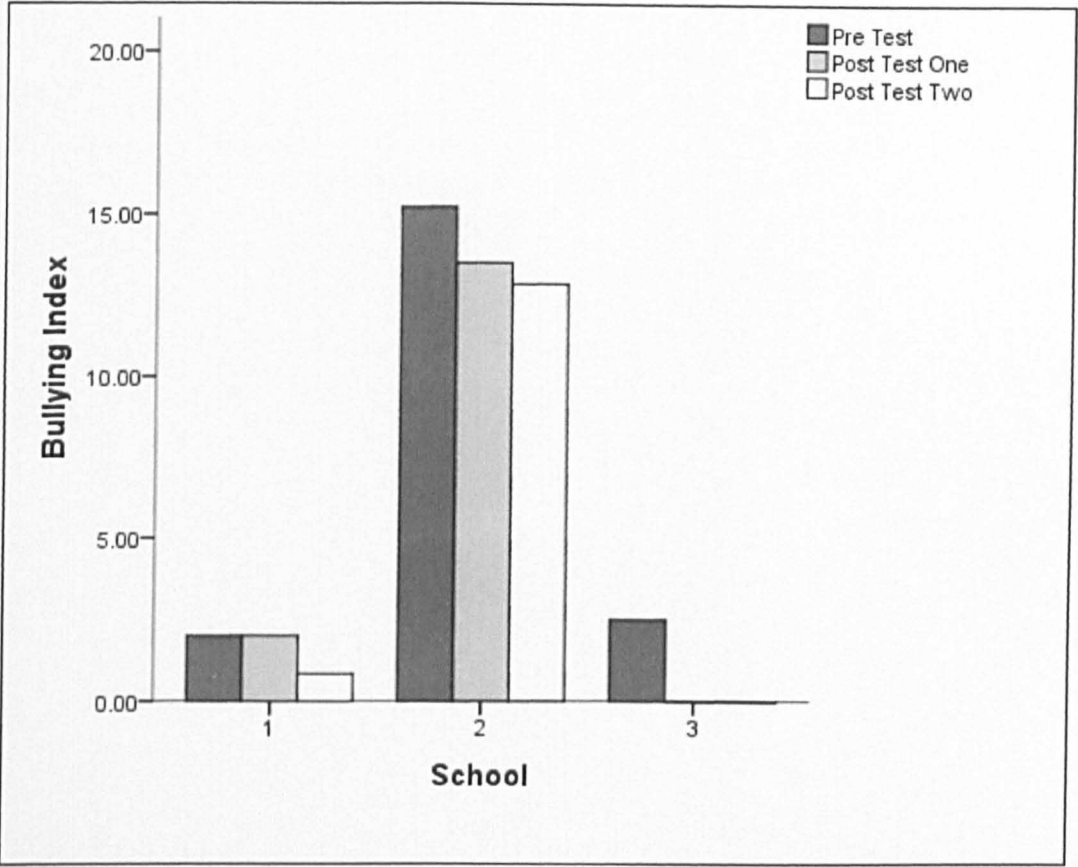


Figure 4.1: A bar chart to show the Bully Index in the three schools at each test time

Table 4.1 and Figure 4.1 show a notably higher Bully Index in School 2 at each test time compared to School 1 and School 3. There is an overall decrease in reported levels of bullying in all three schools. Other points to note are, the lack of decrease in the Bully Index from pre-test to post-test one in School 1, and a Bully Index of zero at the post-test one and two in School 3. Table 4.2 shows the amount of change in the Bully Index in each school across test times.

Experimental Condition	Pre-Test to Post-Test One	Post-Test One to Post-Test Two	Pre-Test to Post-Test Two
School 1	0	-1.17	-1.17
School 2	-1.72	-0.63	-2.35
School 3	-2.50	0	-2.50

Table 4.2: A table to show the change in the Bully Index in each school between test times

In Table 4.2 the negative changes indicate that the Bully Index decreased between test times, meaning that there was a reduction in reported levels of bullying. Positive change would indicate that the Bully Index increased between test times, meaning that there was an increase in reported levels of bullying. As already noted from Table 4.1 and Figure 4.1, Table 4.2 shows that overall the Bully Index decreased in all schools across test times. The largest overall decrease was in School 3 (-2.5), closely followed by School 2 (-2.35).

4.4.1.2 Distribution of the Data

As stated in section 4.2, before analysing a set of data the decision has to be made about whether to use parametric or non-parametric tests. Table 4.3 reports the skewness and kurtosis of the data, z-scores and the results of the Shapiro-Wilk test. Table 4.4 reports the results of the Levene’s test for equality of variances.

Experimental Condition	Skewness			Skewness Z-score			Kurtosis			Kurtosis Z-score			Shapiro-Wilk		
	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two
School 1	1.54	1.54	2.45	1.81	1.81	2.88	1.43	1.43	6.00	0.82	0.82	4.45	0.006	0.06	0.00
School 2	0.34	-0.23	0.72	0.4	0.27	0.85	-1.87	-2.14	-0.96	1.07	-1.23	0.57	0.15	0.36	0.45
School 3	0.00	-	-	0.00	-	-	-4.33	-	-	1.91	-	-	0.004	-	-

Table 4.3: A table to show the distribution of the Bully Index data

Experimental Condition	Pre-Test significance	Post-Test One significance	Post-Test Two significance
School 1 and 2	0.031	0.003	0.007
School 2 and 3	0.022	<0.001	0.002
School 1 and 3	0.81	0.003	0.31

Table 4.4: A table to show Levene’s test for equality of variances for the Bully Index data

Table 4.3 shows that the majority of the z scores for the skewness and kurtosis are not 1.96 and above, or -1.96 and below, indicating that the skewness and kurtosis of the data is not significant. This suggests that the distribution of data is close to normal. However, the values from the Shapiro-Wilk suggest that there is not enough evidence to assume a normal distribution, as half of the values are below 0.05. It should be noted from Table 4.3 that it was not possible to calculate the skewness, kurtosis, z-scores or Shapiro-Wilk values for School 3 at post-test one or post-test two as all the scores were zero. The values in Table 4.4 indicate that equality of variances between groups cannot be assumed as all the values, apart from two, are below 0.05. Therefore, the decision was made that the data do not meet the requirements for parametric testing.

4.4.1.3 Statistical Analysis- Mann Whitney U Test

The independent samples Mann Whitney U test was used to compare the Bully Index scores between schools at each test times. The Mann Whitney U test is a non-parametric test which is used when there are two or more groups of scores which are independent of one another (Howitt and Cramer 2005). At the pre-test there was a statistically significant difference between the Bully Index in School 1 and School 2 ($U = 2.00$, $N_1 = 6$, $N_2 = 6$, $p = 0.009$, two tailed). Therefore, comparisons between School 1 and School 2 at post-test one and two were not made. This is because; if a statistically significant effect was found, this could have been owing to initial difference in reported levels of bullying rather than the intervention itself. There was also a statistically significant difference between School 2 and School 3 at the pre-test ($U = 6.00$, $N_1 = 6$, $N_2 = 6$, $p = 0.05$ two tailed). Again comparisons between schools following the intervention were not made. There was no statistically significant difference between School 1 and School

3 at the pre-test ($U = 15$, $N_1 = 6$, $N_2 = 6$, $p = 0.59$, two tailed). However, similarly there was no statistically significant difference between schools at the post-test one ($U = 12$, $N_1 = 6$, $N_2 = 6$, $p = 0.14$, two tailed) or the post-test two ($U = 15$, $N_1 = 6$, $N_2 = 6$, $p = 0.32$, two tailed)

As comparisons between School 1 and School 2, and School 2 and School 3 following the intervention were not made, owing to a statistically significant difference in reported levels of bullying at the pre-test, statistical analysis was also conducted to see if there was a statistically significant difference *within* each school, across test times. However, as the data for the My Life in School Checklist (Arora and Thompson 1987; Smith 1992) were not matched (see section 3.5.7) it was not possible to carry out the Wilcoxon matched pairs test which looks for a significant difference between related sets of scores. Therefore, the independent samples Mann Whitney U test was also used to compare the Bully Index within each school across test times.

In School 1 there was no statistically significant difference between the pre-test and post-test one Bully Index ($U = 18$, $N_1 = 6$, $N_2 = 6$, $p = 1.00$, two tailed). Equally, there was no statistically significant difference between the post-test one and post-test two ($U = 15$, $N_1 = 6$, $N_2 = 6$, $p = 0.70$, two tailed) or the pre-test and post-test two Bully Index ($U = 15$, $N_1 = 6$, $N_2 = 6$, $p = 0.70$, two tailed). In School 2 there was no statistically significant difference between the pre-test and post-test one Bully Index ($U = 15.5$, $N_1 = 6$, $N_2 = 6$, $p = 0.82$, two tailed). Also, there was no statistically significant difference between the post-test one and post-test two ($U = 15.5$, $N_1 = 6$, $N_2 = 6$, $p = 0.70$, two tailed) or between the pre and post-test two Bully Index ($U = 15$, $N_1 = 6$, $N_2 = 6$, $p = 0.70$ two tailed). Finally, in School 3 there was no statistically significant difference between the pre-test and post-test Bully Index ($U = 9$, $N_1 = 6$, $N_2 = 6$, $p = 0.18$, two tailed). Similarly, there was no statistically significant difference between the post-test one and post-test two ($U = 18$, $N_1 = 6$, $N_2 = 6$, $p = 1.00$, two tailed) or the pre-test and post-test two Bully Index ($U = 9$, $N_1 = 6$, $N_2 = 6$, $p = 0.18$, two tailed).

4.4.1.4 Key Findings

- There was an overall reduction in reported levels of bullying in all three schools following the intervention.

- There was no statistically significant difference in reported levels of bullying between School 1 and School 3 following the intervention (comparisons were not made between School 1 and School 2 or School 2 and School 3 following the intervention).
- The change in reported levels of bullying in each school across test times was not statistically significant
- The results support the null hypothesis which predicts no statistically significant difference between the experimental and control groups in reported levels of bullying following the intervention.

4.4.2 General Aggression Index

4.4.2.1 Presentation of Means

The General Aggression Index represents the mean percentage of pupils that reported experiencing aggressive behaviour during the week on the ‘My Life in Schools Checklist’ (Arora and Thompson 1987; Smith 1992). A reduction in the General Aggression Index is likely to be identified before a reduction in the Bully Index (Arora and Thompson 1987). How to calculate the General Aggression Index is outlined in Appendix 8.7. The General Aggression Index in the three schools at each test time are presented in Table 4.5 and as a bar chart in Figure 4.2. The data used to calculate each General Aggression Index are in Appendix 8.12.

Experimental Condition	Pre-Test Aggression Index	Post-Test One Aggression Index	Post- Test Two Aggression Index
School 1	2.89 (SD = 4.13, n=25)	4.96 (SD = 6.51, n= 25)	4.98 (SD = 2.47, n=20)
School 2	11.59 (SD = 9.03, n=22)	8.65 (SD = 8.45 , n=21)	8.66 (SD =2.33 , n=22)
School 3	4.75 (SD = 4.33, n=20)	1.19 (SD = 2.96, n=21)	2.27 (SD = 4.54, n=22)

Table 4.5: A table to show the General Aggression Index in the three schools at each test time

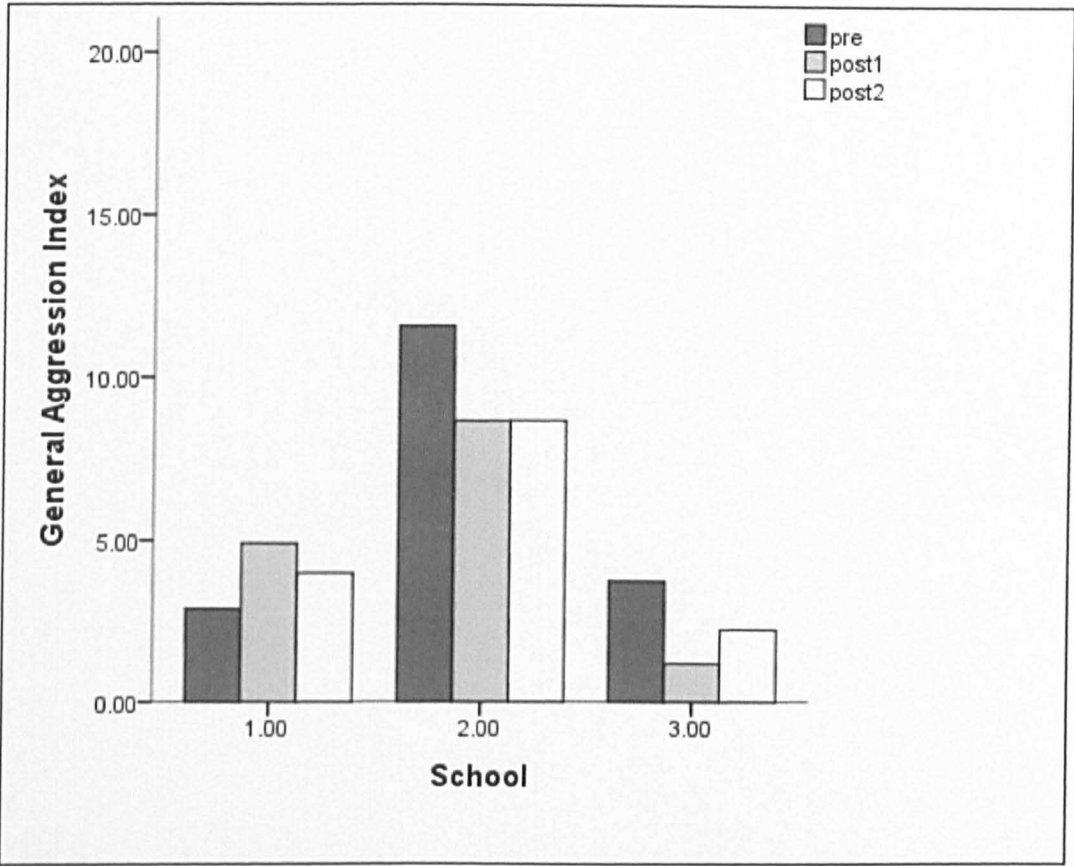


Figure 4.2: A bar chart to show the General Aggression Index in the three schools at each test time

Table 4.5 and Figure 4.2 shows a notably higher General Aggression Index in School 2 at each test time compared to School 1 and School 3. There is an overall decrease in the General Aggression Index in School 2 and School 3, and an increase in School 1. There is a decrease in the General Aggression Index in School 1 between the post-test one and post-test two; however, the final General Aggression Index is still higher following the intervention. School 2 shows no reduction in the General Aggression Index between the post-test one and post-test two. School 3 shows the lowest General Aggression Index at post-test one, however, this increases slightly at post-test two.

Experimental Condition	Pre Test to Post Test One	Post Test One to Post Test Two	Pre Test to Post Test Two
School 1	+2.07	-0.98	+1.09
School 2	-2.94	+0.01	-2.93
School 3	-2.56	+1.08	-1.48

Table 4.6: A table to show the change in the General Aggression Index in each school between test times

In Table 4.6 negative changes indicate that the General Aggression Index decreased between test times, meaning that there was a reduction in reported levels of aggression. Positive changes indicate that the General Aggression Index increased between test times, meaning that there was an increase in reported levels of aggression. As already noted from Table 4.5 and Figure 4.2, Table 4.6 shows an overall decrease in the General Aggression Index in School 2 and School 3, and an increase in School 1.

4.4.2.2 Distribution of Data

Table 4.7 reports the skewness and kurtosis of the data, z-scores and the results of the Shapiro-Wilk test. Table 4.8 reports the results of the Levene’s test for equality of variances.

Experimental Condition	Skewness			Skewness Z-score [statistic/std.error] (significance value: ± 1.96)			Kurtosis			Kurtosis Z-score [statistic/std.error] (significance value: ± 1.96)			Shapiro-Wilk (significance value: $p < 0.05$)		
	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two
School 1	1.68	2.22	2.94	2.71	4.58	4.74	2.90	6.07	9.19	2.43	5.10	7.72	0.001	0.001	<0.001
School 2	0.90	0.72	0.47	1.36	1.09	0.71	0.74	-0.82	-0.78	0.06	-0.64	-0.61	0.094	0.077	0.33
School 3	0.57	2.54	1.97	0.89	4.97	4.10	-1.45	6.16	4.01	1.18	5.01	2.45	0.004	<0.001	<0.001

Table 4.7: A table to show the distribution of the General Aggression Index data

Experimental Condition	Pre-Test significance	Post-Test One significance	Post-Test Two significance
School 1 and 2	0.016	0.002	0.005
School 2 and 3	0.11	0.001	0.024
School 1 and 3	0.035	0.32	0.37

Table 4.8: A table to show Levene’s test for equality of variances for the General Aggression Index data

The z-scores for skewness and kurtosis in Table 4.7 indicate that the data are normally distributed in School 2 but not in School 1 and 3. All the scores in School 1 and School 3, apart from one, are either above 1.96 or below -1.96. Additionally, all the Shapiro-Wilk test values in School 1 and School 3 are significant (<0.05), which suggests that the data are not normally distributed. Furthermore, six out of the nine values in Table 4.8 are below 0.05, suggesting that the variances between groups cannot be assumed. Therefore, the decision was made that the data do not meet the requirements for parametric testing.

4.4.2.3 Statistical Analysis- Mann Whitney U Test

The independent samples Mann Whitney U test was used to compare the General Aggression Index scores between schools at each test time. At the pre-test there was a statistically significant difference between the General Aggression Index in School 1 and School 2 ($U = 11.50$, $N_1 = 12$, $N_2 = 12$, $p = 0.001$, two tailed). Therefore, comparisons between School 1 and School 2 at the post-one and post-two tests were not made. This is because, if a statistically significant effect was found, then this could be owing to initial difference in reported levels of aggression rather than the intervention itself. There was also a statistically significant difference between School 2 and School 3 ($U = 33$, $N_1 = 12$, $N_2 = 12$, $p = 0.022$, two tailed). Again comparisons between schools following the intervention were not made. There was no statistically significant difference between School 1 and School 3 at the pre-test ($U = 54$, $N_1 = 12$, $N_2 = 12$, $p = 0.26$, two tailed). However, equally there was no statistically significant difference

between schools at the post-test one ($U = 46$, $N_1 = 12$, $N_2 = 12$, $p = 0.083$, two tailed) or the post-test two ($U = 71.5$, $N_1 = 12$, $N_2 = 12$, $p = 0.97$, two tailed).

As comparisons between School 1 and School 2, and School 2 and School 3 were not made owing to statistically significant difference in reported levels of aggression at the pre-test, statistical analysis was also conducted to see if there was a statistically significant difference *within* each school, between test times. An independent samples Mann Whitney U test was used to compare the General Aggression Index within each school across test times. In School 1 there was no statistically significant difference between the pre-test and post-test General Aggression Index ($U = 56$, $N_1 = 12$, $N_2 = 12$, $p = 0.39$, two tailed). Equally, there was no statistically significant difference between the post-test one and post-test two ($U = 52.50$, $N_1 = 12$, $N_2 = 12$, $p = 0.27$, two tailed) or the pre-test and post-test two General Aggression Index ($U = 65.5$, $N_1 = 12$, $N_2 = 12$, $p = 0.71$, two tailed). In School 2 there was no statistically significant difference between the pre-test and post-test one General Aggression Index ($U = 56$, $N_1 = 12$, $N_2 = 12$, $p = 0.39$, two tailed). Also, there was no statistically significant difference between the post-test one and post-test two ($U = 68.50$, $N_1 = 12$, $N_2 = 12$, $p = 0.84$, two tailed) or between the pre and post-test two General Aggression Index ($U = 64.50$, $N_1 = 12$, $N_2 = 12$, $p = 0.67$ two tailed). Finally, in School 3 there was no statistically significant difference between the pre-test and post-test General Aggression Index ($U = 45$, $N_1 = 12$, $N_2 = 12$, $p = 0.13$, two tailed). Similarly, there was no statistically significant difference between the post-test one and post-test two ($U = 66$, $N_1 = 12$, $N_2 = 12$, $p = 0.76$, two tailed) or the pre-test and post-test two General Aggression Index ($U = 54$, $N_1 = 12$, $N_2 = 12$, $p = 0.32$, two tailed).

4.4.2.4 Key Findings

- There was an overall decrease in the reported levels of aggression in School 2 and School 3, and an increase in School 1.
- There was no statistically significant difference in reported levels of aggression between School 1 and School 3 following the intervention (comparisons were not made between School 1 and School 2 or School 2 and School 3 following the intervention).

- There was no statistically significant difference in reported levels of aggression across tests times within each school.
- Again, this supports the null hypothesis that predicts no statistically significant difference between the experimental and control groups in reported levels aggression following the intervention.

4.5 What are the effects of the anti-bullying curriculum on teachers' reports on pupil behaviour?

The measure used to explore this question was the SDQ (Goodman 1997). Although the SDQ is not a direct measure of bullying, a score of difficult and prosocial behaviour can be calculated. A decrease in difficult behaviour and an increase in prosocial behaviour may be an indication of a reduction in bullying behaviour as a result of the intervention.

4.5.1 SDQ- Total Difficulties

4.5 1.1 Presentation of Mean Scores

The total difficulties mean score in the three schools at each test time is presented in Table 4.9 and as a bar chart in Figure 4.3. The total difficulties raw data are included in Appendix 8.13.

Experimental Condition	Pre- Test Total Difficulties	Post- Test One Total Difficulties	Post- Test Two Total Difficulties
School 1	7.23 (SD= 6.22, n= 13)	5.23 (SD=4.75, n = 13)	8.23 (SD= 6.35, n= 13)
School 2	11.00 (SD=6.88, n= 13)	8.15 (SD= 5.47, n = 13)	8.08 (SD= 5.62, n = 13)
School 3	4.80 (SD= 4.09, n= 15)	5.00 (SD= 4.93, n = 15)	5.73 (SD= 4.17, n = 15)

Table 4.9: A table to show the total difficulties mean scores

For each pupil the total difficulties score can range from 0-40. Goodman (1997) classifies scores ranging from 0-11 as 'normal', 12-15 as 'borderline' and 16-40 as

‘abnormal’. Table 4.9 shows that all the Total Difficulties mean scores fall within the normal range.

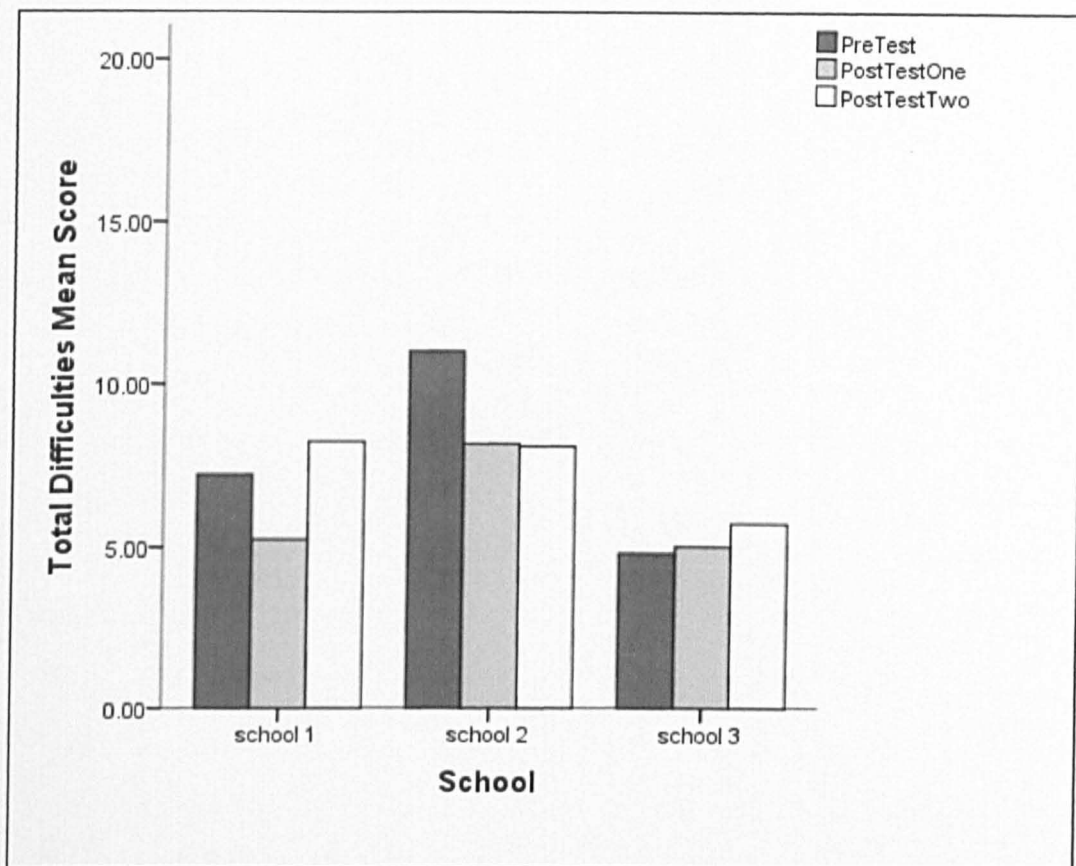


Figure 4.3: A bar chart to show the total difficulties mean score in the three schools at each test time

Table 4.9 and Figure 4.3 show an overall increase in the total difficulties mean scores in School 1 and School 3, although School 1 shows a decrease at post-test one. In School 2 there was an overall decrease in the total difficulties mean score, however, the decrease between post-test one and post-test two is very slight. The highest total difficulties mean score is in School 2 at the pre-test and the lowest is in School 3, also at the pre-test. Table 4.10 shows the change in the total difficulties mean score in the three schools at each test times.

Experimental Condition	Pre-Test to Post-Test One	Post-Test One to Post-Test Two	Pre-Test to Post-Test Two
School 1	-2.00	+ 4.00	+1.00
School 2	-2.85	-0.07	-2.92
School 3	+0.20	+0.73	+0.93

Table 4.10: A table to show the change in the total difficulties mean score in each school between test times

In Table 4.10 negative changes indicate that the total difficulties mean score decreased between test times, meaning there was a reduction in reported levels of difficult behaviour by the class teacher. Positive changes indicate that the total difficulties mean score increased between test times, meaning that there was an increase in reported levels of difficult behaviour. As already noted from Table 4.9 and Figure 4.3, the table shows an overall increase in the total difficulties mean score in School 1 and School 3, and a decrease in School 2.

4.5.1.2 Distribution of the Data

Table 4.11 reports the skewness and kurtosis of the data, z-scores and the results of the Shapiro-Wilk test. Table 4.12 reports the results of the Levene’s test for equality of variances.

Experimental Condition	Skewness			Skewness Z-score			Kurtosis			Kurtosis Z-score			Shapiro-Wilk		
	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two
School 1	1.17	1.24	2.41	1.89	2.02	4.87	0.79	1.16	6.80	0.66	0.97	5.7	0.05	0.05	0.001
School 2	0.01	0.46	-0.27	0.01	0.74	0.44	-0.82	-0.42	-1.20	0.69	0.35	1.34	0.61	0.44	0.09
School 3	0.50	0.71	0.13	0.84	1.22	0.22	-0.84	-0.52	-1.00	-0.75	0.46	0.89	0.20	0.16	0.45

Table 4.11: A table to show the distribution of the total difficulties data

Experimental Condition	Pre Test significance	Post-Test One significance	Post-Test Two significance
School 1 and 2	0.41	0.45	0.63
School 2 and 3	0.029	0.37	0.009
School 1 and 3	0.24	0.99	0.24

Table 4.12: A table to show Levene’s test for equality of variances for the total difficulties data

The z-scores for skewness and kurtosis in Table 4.11 indicate that the data are normally distributed as the majority of the scores are not above 1.96 or below -1.96. Additionally, all the Shapiro-Wilk test values, apart from one, are not significant (>0.05), which again suggests that the data are approximately normally distributed. Furthermore, the scores in Table 4.12 indicate that equality of variances between groups can be assumed as all the scores, apart from two, are above 0.05. Therefore, the decision was made that the data meet the requirements for parametric testing.

4.5.1.3 Statistical Analysis- ANOVA

A 3x3 mixed Analysis of Variance (ANOVA) was used to assess whether any differences between the scores were statistically significant. There was a main effect of test time ($F(2, 38) = 4.19, p = 0.047$). There was no main effect of group ($F(2, 38) = 96.93, p = 0.10$). There was an interaction effect between test time and group ($F(8, 38) = 2.65, p = 0.039$). Post hoc independent samples t-tests were then conducted to establish where the differences lay. The only statistically significant difference found was between School 2 and School 3 at the pre-test ($t(28) = 2.30, p = 0.029$).

4.5.1.4 Key Findings

- There was an overall increase in the total difficulties mean scores in School 1 and School 3, and a decrease in School 2.
- There was a main effect of test time. This means that, if group is ignored, the teacher’s ratings on the SDQ were affected by the test time.

- There was no main effect of group. This means that, ignoring test time, the group that the pupils were in did not affect the teacher's rating on the SDQ.
- There was an interaction effect between group and test time. However, post-hoc tests found that the only statistically significant difference was between School 2 and School 3 at the pre-test.
- This supports the null hypothesis that states there will be no statistically significant decrease in reported difficult behaviour in the experimental groups compared to the control group following the intervention.

4.5.2 SDQ-Prosocial

4.5.2.1 Presentation of Mean Scores

The prosocial mean score in the three schools at each test time is presented Table 4.13 and as a bar chart in Figure 4.4. The raw data used to calculate the means are in Appendix 8.14.

Experimental Condition	Pre-Test Prosocial	Post- Test One Prosocial	Post- Test Two Prosocial
School 1	6.23 (SD=2.20), n= 13)	8.00 (SD=2.61), n = 13)	6.85 (SD= 2.03, n= 13)
School 2	6.00 (SD=2.08), n= 13)	5.70 (SD= 1.89), n = 13)	7.46 (SD= 2.40, n = 13)
School 3	6.8 (SD= 2.57), n= 15)	6.00 (SD=2.07) , n = 15)	8.80 (SD= 0.68, n = 15)

SD = standard deviation n= number of participants

Table 4.13: A table to show the prosocial mean score in the three schools at each test time

For each pupil the prosocial mean score can range from 0-10. Goodman (1997) classifies scores ranging from 6-10 as 'normal', 5 as 'borderline' and 0-4 as 'abnormal'. Table 4.13 shows that all the prosocial mean scores fall within or very close to the normal range. The prosocial mean scores are also presented as a bar chart in Figure 4.4.

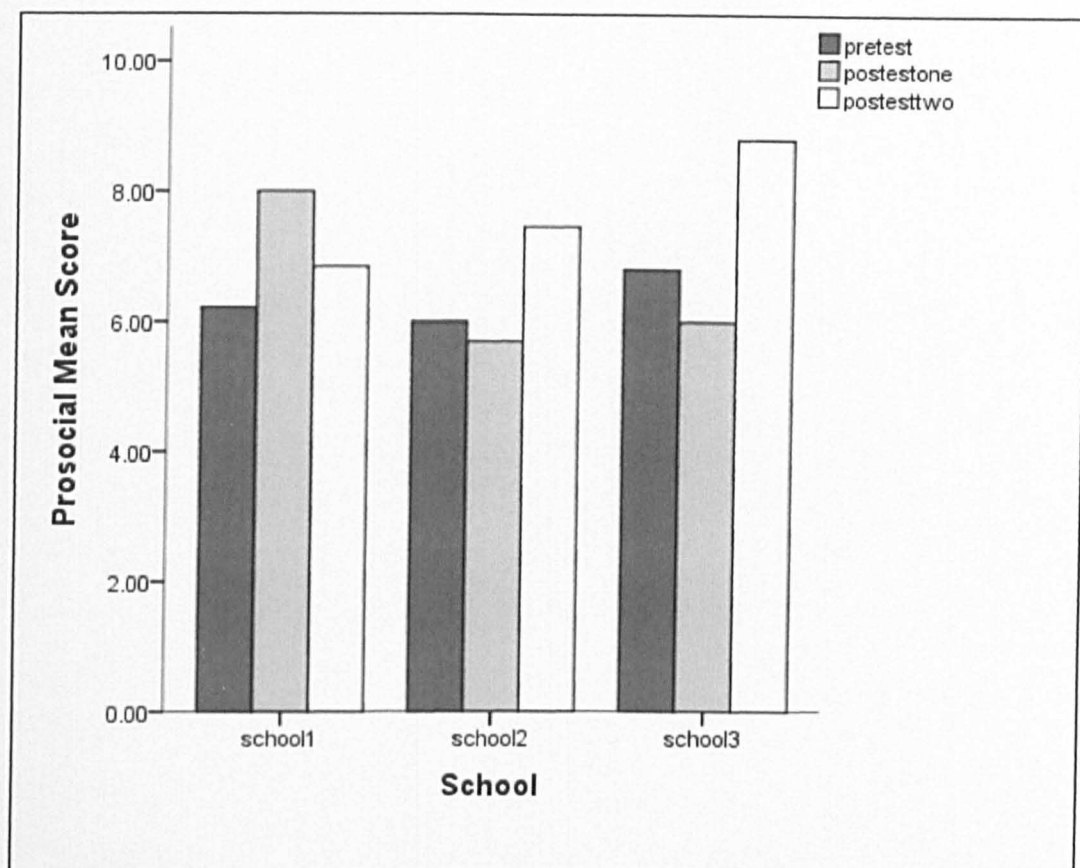


Figure 4.4: A bar chart to show the prosocial mean score in the three schools at each test time

Table 4.13 and Figure 4.4 show that the prosocial mean score at the pre-test was similar in each school (ranging from 6.23-6.8). There was an overall increase in the prosocial mean score in each school across the test times. In School 1 there was an increase at post-test one, which then decreased at post-test two. However, there was an overall increase between the pre-test and post-test two. School 2 and School 3 show a similar trend, with a decrease in the prosocial mean score at post-test one, but an overall increase at post-test two. School 3 at the post-test two shows the highest prosocial mean score. Table 4.14 shows the amount of change in the prosocial mean scores in the three schools across test times.

Experimental Condition	Pre Test to Post Test One	Post Test One to Post Test Two	Pre Test to Post Test Two
School 1	+1.77	-1.15	+0.62
School 2	-0.30	+1.76	+1.46
School 3	-0.8	+2.8	+2

Table 4.14: A table to show the change in the prosocial mean score in each school between test times

In Table 4.14 positive changes show that the prosocial mean score has increased between test times, meaning there was an increase in reported levels of prosocial behaviour by the class teacher. Negative changes show that the prosocial mean score increased between test times, meaning that there was a decrease in reported levels of prosocial behaviour. As already noted from the bar chart, the table shows an overall increase in the prosocial mean score in all three schools, with the largest overall increase being in School 3 (+2).

4.5.2.2 *Distribution of the Data*

Table 4.15 reports the skewness and kurtosis of the data, z-scores and the results of the Shapiro-Wilk test. Table 4.16 reports the results of the Levene’s test for equality of variances.

Experimental Condition	Skewness			Skewness Z-score [statistic/std.error] (significance value: ± 1.96)			Kurtosis			Kurtosis Z-score [statistic/std.error] (significance value: ± 1.96)			Shapiro-Wilk (significance value: $p < 0.05$)		
	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two
School 1	0.04	-1.29	-0.25	0.06	2.08	0.40	-0.84	0.67	-0.70	0.71	0.56	0.59	0.81	0.003	0.66
School 2	0.07	1.31	-0.56	0.11	2.13	0.90	-1.17	1.78	-0.81	0.98	1.50	0.68	0.36	0.01	0.15
School 3	-0.91	0.06	-1.34	1.57	0.10	2.31	0.21	0.40	4.28	0.19	0.36	2.93	0.10	0.68	<0.001

Table 4.15: A table to show the distribution of the prosocial data

Experimental Condition	Pre- Test significance	Post-Test One significance	Post-Test Two significance
School 1 and 2	0.86	0.10	0.57
School 2 and 3	0.52	0.66	<0.001
School 1 and 3	0.65	0.25	<0.001

Table 4.16: A table to show Levene’s test for equality of variances for the prosocial data

The z-scores for skewness and kurtosis in Table 4.15 indicate that the data are normally distributed as the majority of the scores are not above 1.96 or below -1.96. Additionally, six out of the nine Shapiro-Wilk test values, are not statistically significant (>0.05), which again suggests that the data are approximately normally distributed. Furthermore, the values in Table 4.16 indicate that equality of variances between groups can be assumed as all the values, apart from two, are above 0.05. Therefore, the decision was made that the data meet the requirements for parametric testing.

4.5.2.3 Statistical Analysis- ANOVA

A 3x3 mixed ANOVA was used to assess whether any differences between the scores were statistically significant. There was a main effect of test time ($2.38 = 10.76$, $p<0.001$). There was no main effect of group ($F(2, 38) = 0.79$, $p = 0.46$). There was an interaction effect between group and test time ($F(8, 35) = 7.37$, $p<0.001$). Post hoc independent samples t-tests were then conducted to establish where the differences lay. There was a statistically significant difference between School 1 and School 2 at post-test one ($t(27) = 2.65$, $p = 0.013$). There was a statistically significant difference between School 2 and School 3 at post-test two ($t(26) = -2.07$, $p = 0.048$). There was a statistically significant difference between School 1 and School 3 at post-test one ($t(28) = 2.24$, $p = 0.033$) and post-test two ($t(26) = -4.51$, $p = 0.002$). However, the post-hoc tests were not consistent enough to say that the prosocial scores were statistically significantly higher in the experimental groups compared to the control as on some

occasions where a statistically significant difference was found the prosocial score was actually higher in the control group

4.5.2.4. Key Findings

- There was an overall increase in the prosocial mean score in each school across the test times.
- There was a main effect of test time. This means that, if group is ignored, the ratings given by the class teacher were affected by the test time.
- There was no main effect of group. This means that, if test time is ignored, the group that the pupils were in did not affect the teacher's ratings on the SDQ.
- There was an interaction effect between group and test time. However, on occasions the prosocial mean score was higher in the control group.
- This supports the null hypothesis that states there will be no statistically significant increase in prosocial behaviour in the experimental groups compared to the control group following the intervention.

4.6 What are the effects of the anti-bullying curriculum on pupils' beliefs and attitudes towards bullying?

The measure used to explore this question was the PVS (Rigby and Slee 1991a) which aims to identify pupils' attitudes towards bullying. Details about the measure can be found in section 3.5.3. The raw data used to calculate the PVS mean scores are in Appendix 8.15.

4.6.1 Pro-Victim Scale

4.6.1.1 Presentation of Means

Experimental Condition	Pre- Test PVS mean score	Post- Test PVS mean score	Post- Test Two PVS mean score
School 1	27.55 (SD= 0.41, n= 13)	27.85 (SD=0.49, n = 13)	28.25 (SD= 0.41 , n= 13)
School 2	26.52 (SD=0.82, n= 13)	26.19 (SD= 0.80, n = 13)	27.29 (SD= 0.63, n = 13)
School 3	27.64 (SD= 0.50 n= 15)	27.93 (SD= 0.50, n = 15)	27.64 (SD= 0.56, n = 15)

Table 4.17: A table to show the PVS mean score in the three schools at each test time

On the PVS the lowest possible score is 10 and the highest is 30. A high score indicates a pro victim/anti-bullying attitude. A score below 20 indicates an anti-victim/pro-bullying attitude (Sharp 1999). Table 4.17 shows that all the PVS mean scores are above 20 (ranging from 26.19-28.25) suggesting that the majority of the pupils had a pro-victim/anti-bullying attitude before the intervention. The Prosocial mean scores are also presented as a bar chart in Figure 4.5.

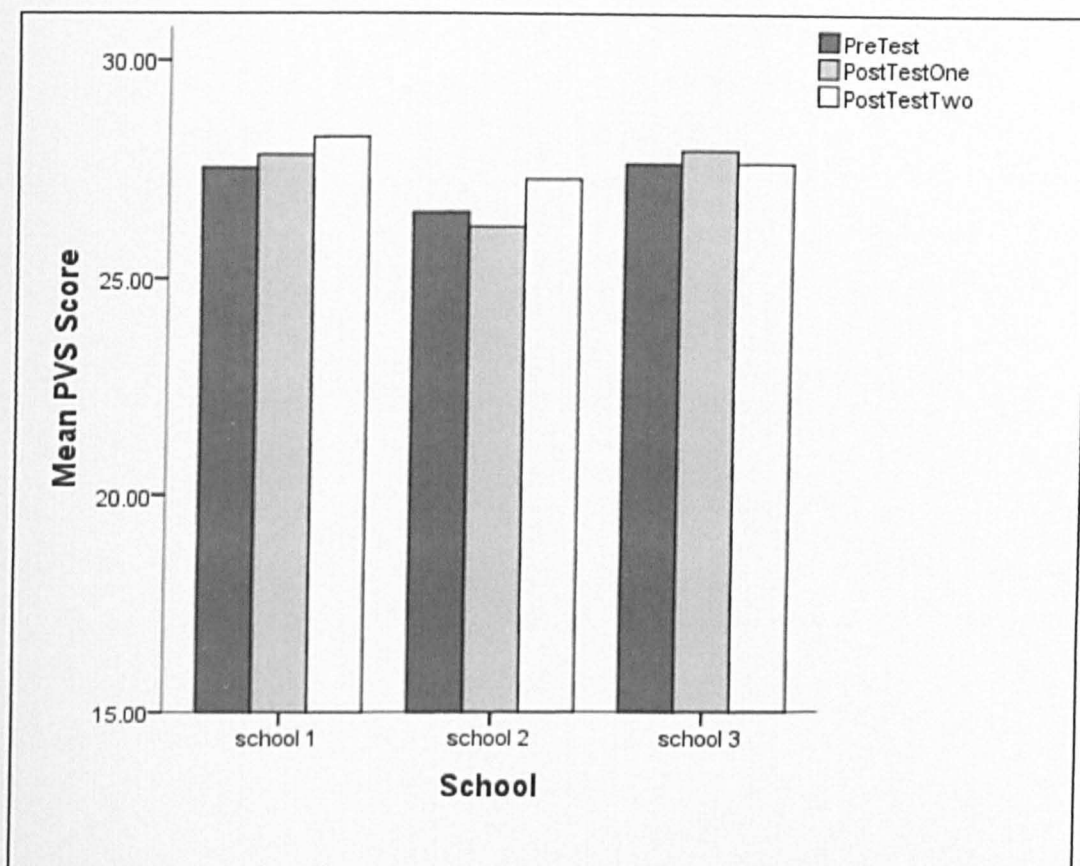


Figure 4.5: A bar chart to show the PVS mean score in the three schools at each test time

As stated above, Figure 4.5 shows that the PVS mean scores were high in each school, across the test times. School 1 and School 2 show an increase in the mean PVS score across the tests, with School 2 showing a slight decrease at post-test one. The PVS mean score was the same in School 3 at the pre-test and post-test two. However, there was a slight increase between the pre-test and post-test one. Table 4.18 shows the amount of change in the PVS mean score in the three schools across test times.

Experimental Condition	Pre-Test to Post-Test One	Post-Test One to Post-Test Two	Pre-Test to Post-Test Two
School 1	+0.3	+ 0.4	+0.7
School 2	-0.33	+1.1	+0.77
School 3	+0.29	-0.29	0

Table 4.18: A table to show the change in the PVS mean score in each school across test times

In Table 4.18 positive changes show that the PVS mean score has increased between test times, meaning there was an increase in a pro-victim/anti-bullying attitude reported by the pupils. Negative changes show that PVS score has decreased between test times, meaning that there was a decrease in a pro-victim/anti-bullying attitude reported by the pupils. As already noted from Table 4.17 and Figure 4.5, the table shows an overall increase in the PVS mean score in School 1 and School 2, with the largest overall increase being in School 2 (+0.77). There was no overall change in the PVS mean score between pre-test and post-test two in School 3 .

4.6.1.2 Distribution of Data

Table 4.19 reports the skewness and kurtosis of the data, z-scores and the results of the Shapiro-Wilk test. Table 4.20 reports the results of the Levene's test for equality of variances.

Experimental Condition	Skewness			Skewness Z-score [statistic/std.error] (significance value: ± 1.96)			Kurtosis			Kurtosis Z-score [statistic/std.error] (significance value: ± 1.96)			Shapiro-Wilk (significance value: $p < 0.05$)		
	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two
School 1	-0.58	-0.70	-0.58	1.14	-1.37	1.14	0.66	-0.59	-1.11	0.70	0.60	1.12	0.13	0.01	0.003
School 2	-1.67	-1.32	-1.14	-4.34	-2.64	-2.28	2.00	0.79	0.64	2.06	0.81	0.66	<0.001	0.02	0.01
School 3	-0.05	-0.89	-0.38	0.08	-1.5	0.63	-1.59	0.11	-1.22	1.38	0.10	1.06	0.86	0.10	0.08

Table 4.19: A table to show the distribution of the PVS data

Experimental Condition	Pre-Test	Post-Test One	Post-Test Two
School 1 and 2	0.038	0.62	0.025
School 2 and 3	0.22	0.043	0.12
School 1 and 3	0.17	0.29	0.52

Table 4.20: A table to show the Levene’s test for equality of variances for the PVS data

Table 4.19 shows that the majority of the z scores for the skewness and kurtosis are not 1.96 and above, or -1.96 and below, indicating that the skewness and kurtosis of the data is not significant. This suggests that the distribution of data is close to normal. However, the values from the Shapiro-Wilk test suggest that there is not enough evidence to assume a normal distribution, as half of the values are below 0.05. Furthermore, the values in Table 4.20 indicate that equality of variances between groups cannot be assumed as a third of the scores are below 0.05. Therefore, the decision was made that the data do not meet the requirements for parametric testing.

4.6.1.3 Statistical Analysis- Mann Whitney U Test

An independent samples Mann Whitney U test was used to compare PVS scores between schools at each test times. At the pre-test there was no statistically significant difference between the PVS scores in School 1 and School 2 ($U = 245.50$, $N_1 = 25$, $N_2 = 22$, $p = 0.52$, two tailed). Equally, at the post-test one there was no statistically significant difference between the PVS scores in School 1 and School 2 ($U = 207.50$, $N_1 = 25$, $N_2 = 21$, $p = 0.22$, two tailed) or at the post-test two ($U = 175.50$, $N_1 = 20$, $N_2 = 22$, $p = 0.25$, two tailed). Moving onto compare School 2 and School 3, at the pre-test there was no statistically significant difference between the PVS scores ($U=196.50$, $N_1 = 22$, $N_2 = 20$, $p = 0.55$, two tailed). Also, at the post-test one there was no statistically significant difference between the PVS scores in School 2 and School 3 ($U = 106.50$, $N_1 = 21$, $N_2 = 14$, $p = 0.18$, two tailed) or at the post-test two ($U = 222.00$, $N_1 = 22$, $N_2 = 22$, $p = 0.63$, two tailed). Finally, there was no statistically significant difference between the pre-test PVS scores in School 1 and School 3 ($U = 243.00$, $N_1 = 25$, $N_2 = 20$, $p = 0.87$, two tailed). Similarly, there was no statistically significant difference between the

post-test one PVS scores in School 1 and 3 ($U = 167.00$, $N_1 = 25$, $N_2 = 14$, $p = 0.83$, two tailed) or the post-test two ($U = 191.50$, $N_1 = 20$, $N_2 = 22$, $p = 0.46$, two tailed).

4.6.1.4 Key Findings

- There was an overall increase in the mean PVS score in School 1 and School 2 across test times.
- The PVS mean score was the same in School 3 at the pre-test and post-test two. Although, there was a slight increase between the pre-test and post-test one.
- There was also no statistically significant difference in the PVS scores between the schools following the intervention
- This supports the null hypothesis which states there will be no statistically significant increase in anti-bullying/pro-victim attitudes in the experimental groups compared to the control group following the intervention.

4.7 What are the effects of the anti-bullying curriculum on the volume of responses given per group on how to intervene in a bullying situation?

Two vignettes were used to address the question ‘what are the effects of the anti-bullying curriculum on the volume of responses given per group on how to intervene in bullying situations’. The use of the vignettes is outlined in section 3.5.5. The data used to calculate the mean number of responses are in Appendix 8.16.

4.7.1 Vignettes

4.7.1.1 Presentation of Means

The mean number of responses per group given to the vignettes is shown in Table 4.21 and represented again in Figure 4.6

Experimental Group	Pre-Test Mean	Post-Test One Mean	Post-Test Two Mean
School 1	5.2	6.4	6
School 2	5.2	8	7.4
School 3	5.5	7	7

Table 4.21: A table to show the mean number of responses given to the vignettes per group in the three schools at each test time

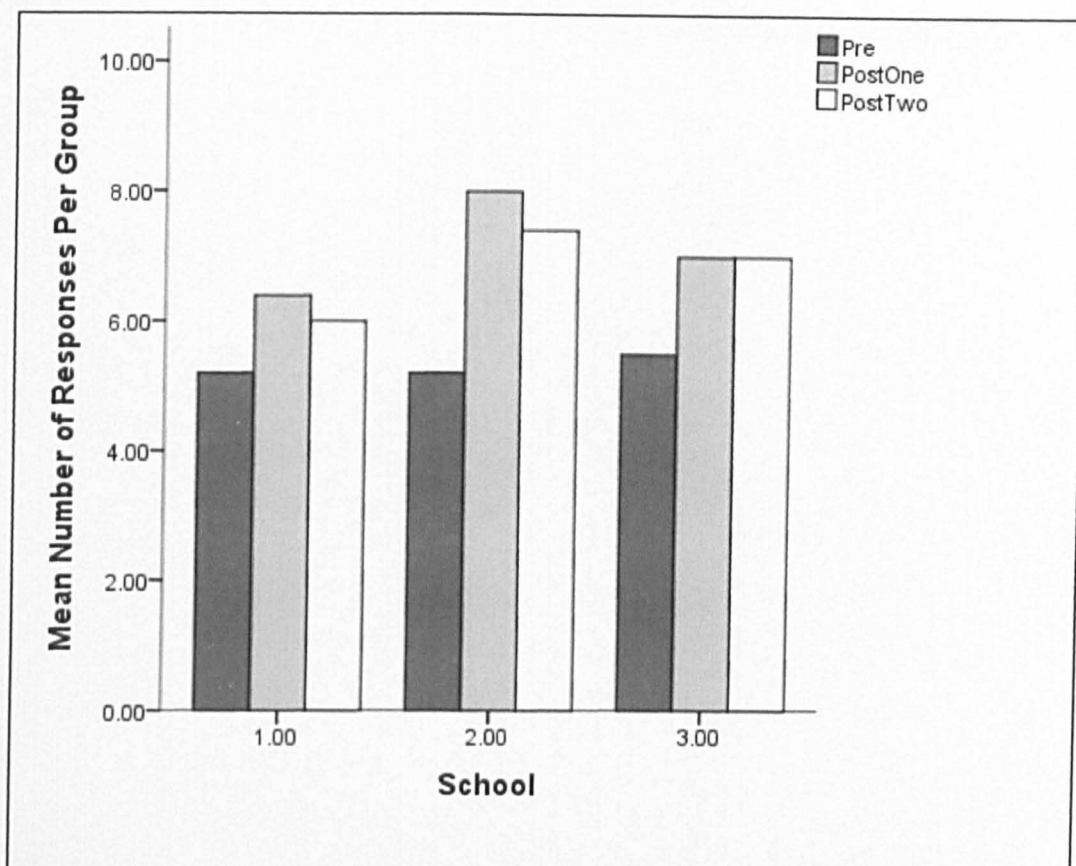


Figure 4.6: A bar chart to show the mean number of response given to the vignettes per group in the three schools at each test time

Table 4.21 and Figure 4.6 show an overall increase in the mean number of responses given to the vignette per group in all three schools. However, School 1 and School 2 show a slight decrease in the number of responses given at the post-test two compared to the post-test one. In School 3 the pupils gave the same mean number of responses for post-test one and post-test two. School 2 at post-test one gave the highest number of responses to the vignette. Table 4.22 shows the amount of change in mean number of responses to the vignettes in the three schools across test times.

Experimental Condition	Pre-Test to Post-Test One	Post-Test One to Post-Test Two	Pre-Test to Post-Test Two
School 1	+1.2	-0.4	+0.8
School 2	+2.8	-0.6	+2.2
School 3	+1.5	0	+1.5

Table 4.22: A table to show the change in the mean number of responses given to the vignettes per group in each school between test times

In Table 4.22 positive changes show that the number of responses per group has increased between test times. This suggests an increase in knowledge of how to intervene in bullying situations. Negative changes show that the number of responses per group has decreased between test times. This suggests a decrease in knowledge of how to intervene in bullying situations. The mean number of responses given per group increased in all three schools, as already noted from Table 4.21 and Figure 4.6. The largest increase was in School 2 (+2.2). However, there was a slight decrease in the number of responses given in the post test two compared to the post-test one in School 1 and School 2. In School 3 the pupils gave the same mean number of responses for post-test one and post-test two.

4.7.1.2 Distribution of Data

Table 4.23 reports the skewness and kurtosis of the data, z-scores and the results of the Shapiro-Wilk test. Table 4.24 reports the results of the Levene’s test for equality of variances.

Experimental Condition	Skewness			Skewness Z-score			Kurtosis			Kurtosis Z-score			Shapiro-Wilk		
	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two	Pre-Test	Post-Test One	Post-Test Two
School 1	0.71	1.44	-	0.70	1.43	-	1.79	2.24	-	0.68	0.85	-	0.57	0.37	-
School 2	0.05	0.00	-0.67	-0.05	0.00	0.74	-2.32	-1.20	1.85	-1.16	-0.60	0.93	0.38	0.97	0.60
School 3	0.00	0.00	0.00	0.00	0.00	0.00	-1.20	-4.30	1.50	0.46	1.26	0.57	0.97	0.71	0.68

Table 4.23: A table to show the distribution of the vignette data

Experimental Condition	Pre-Test significance	Post-Test One significance	Post-Test Two significance
School 1 and 2	0.86	0.10	0.57
School 2 and 3	0.52	0.66	<0.001
School 1 and 3	0.65	0.25	<0.001

Table 4.24: A table to show Levene’s test for equality of variances for the vignette data

The z-scores for skewness and kurtosis in Table 4.23 indicate that the data are normally distributed as none of the values are above 1.96 or below -1.96. Additionally, none of the values from the Shapiro-Wilk test are statistically significant (p is >0.05), which supports the argument that the data are normally distributed. It should be noted that there are no scores in Table 4.23 for School 1 at the post-test one as each group gave exactly the same number of responses therefore there is no skewness or kurtosis in the data. The scores in Table 4.24 indicate that equality of variances between groups can be assumed as all the scores are above 0.05. Therefore, the decision was made that the data meet the requirements for parametric testing.

4.7.1.3 Statistical Analysis- ANOVA

A 3x3 mixed ANOVA was used to assess whether any differences between the scores were statistically significant. There was no main effect of test time ($F(2, 68) = 2.84, p = 0.082$). There was no main effect of group ($F(2, 68) = 1.43, p = 0.28$). There was no interaction effect between test time and group ($F(2, 68) = 0.27, p = 0.052$).

4.7.1.4 Key findings

- There was an overall increase in the mean number of responses given to the vignette per group in all three schools.
- However, the main effect of test time was not statistically significant. This means that, if group is ignored, the number of responses given to the vignettes was not affected by the test time.
- Equally, the main effect of group was not statistically significant, meaning ignoring test time, the school that the pupils were in did not affect number of responses given to the vignettes.

- The interaction effect between test time and group was not statistically significant.
- This supports the null hypothesis that predicts there will be no statistically significant increase in knowledge of how to intervene in bullying situations in the experimental groups compared to the control groups following the intervention.

4.8 Does parental involvement have an impact on the effectiveness of the intervention?

The final question is addressed by comparing School 1 and School 2 in terms of the overall effectiveness of the intervention in all three areas, these being, reported levels of bullying, teacher's reports on pupil behaviour, attitudes towards bullying and knowledge of how to intervene in bullying situations. Comparisons between School 1 and School 2 are now made for each measure:

4.8.1 Bullying Index

- The overall decrease in the Bully Index was greater in School 2 (-2.35) compared to School 1 (-1.17).
- However the change in the Bully Index was not statistically significant in either School 1 or School 2.

4.8.2 General Aggression Index

- In School 1 there was an overall increase in the General Aggression Index (+1.09). Whereas in School 2 there was an overall decrease (-2.93).
- However, the change in the General Aggression Index was not statistically significant in either School 1 or School 2.

4.8.3 SDQ-Total Difficulties

- In School 1 there was an overall increase in the total difficulties mean score (+1.00). Whereas, in School 2 there was an overall decrease (-2.92).
- However this difference was not found to be statistically significant.

4.8.4 SDQ- Prosocial

- The overall increase in the prosocial mean score was greater in School 2 (+ 1.46) compared to School 1 (+ 0.62).
- However the difference was not found to be statistically significant.

4.8.5 Pro-Victim Scale

- The overall increases in PVS mean score was greater in School 2 (+ 0.77) compared to School 1 (+0.70).
- However the change in attitudes towards bullying was not statistically significant in School 1 or School 2.

4.8.6 Vignettes

- The overall increase in the mean number of response to the vignettes was greater in School 2 (+ 2.2) compared to School 1 (+ 0.8).
- However this difference was not found to be statistically significant.

4.8.7 Key Findings

In School 2, where the pupils received parental involvement, slightly greater positive effects were found compared to School 1 for each measure. However, none of the results were statistically significant. Therefore this supports the null hypothesis that states ‘there will be no statistically significant greater effectiveness in School 2 compared to School 1 in terms of the overall effectiveness of the intervention’.

4.9 Overall Summary of Key Findings

An overall summary of the key findings in relation to each question is presented in Table 4.25.

Research Question	Measure	Findings
1) What are the effects of the anti-bullying curriculum on the reported levels of bullying?	My Life in Schools Checklist (Bully Index and General Aggression Index)	Overall decrease in Bully and General Aggression Index in all schools. No statistically significant effect.
2) What are the effects of the anti-bullying curriculum on behaviour?	SDQ (total difficulties score and prosocial score)	Overall increase in the total difficulties mean scores in School 1 and School 3, and a decrease in School 2. Overall increase in the prosocial mean scored in all schools. No statistically significant effect.
3) What are the effects of the anti-bullying curriculum on students' beliefs and attitudes towards bullying?	PVS	Overall increase in the mean PVS score in School 1 and School 2. PVS mean score in School 3 stayed the same. No statistically significant effect.
4) What are the effects of the anti-bullying curriculum on the volume of responses given per group on how to intervene in a bullying situation?	Vignettes	Overall increase in the mean number of responses given to the vignettes in all three schools. No statistically significant effect.
5) Does parental involvement have an impact on the effectiveness of the intervention?	Comparison between School 1 and School 2 in terms of overall effectiveness of the intervention in all three areas (reported levels of bullying, teacher's reports on pupil behaviour, attitude towards bullying and knowledge of how to intervene in bullying situations)	Slightly greater positive effects were found in School 2 compared to School 1 for all measures. However none of the results were found to be statistically significant.

Table 4.25: A table to show an overall summary of key findings

The findings will be discussed and explored further in the next chapter.

5. Discussion

5.1 Introduction

The aim of this study was to investigate the effectiveness of a five week whole class anti-bullying curriculum based intervention. The rationale for evaluating a whole class intervention was based on research which suggests that bullying cannot be understood solely as an interaction between two individuals, but rather is a group phenomenon largely maintained by peers taking on different roles (Craig and Pepler 1997; O'Connell, Pepler and Craig 1999; Salmivalli 1999). This behaviour can be explained from a social identity theory perspective (Tajfel and Turner 1979) which states pupils are motivated to maintain a positive social identity and do so by adhering to group norms (Tajfel and Turner 1979). If bullying is normative within a class pupils are more likely to join in or accept the bullying and less likely to intervene to support the victims, as this can lead to disapproval from the peer group (Duffy and Nesdale 2008; Salmivalli and Voeten 2004). The overall aim of 'Defeat Bullying' (NSPCC 2007) was to create an anti-bullying norm within the class, develop anti-bullying attitudes and teach pupils strategies to intervene positively.

In this chapter the results are explored further in relation to each research question and set in the context of existing research and literature. Alternative mechanisms of change are explored in terms of theory and method. Limitations of the study are considered. Then the appropriateness of the measures used is discussed and reflections on the content of the curriculum are made. Following this, the epistemological stance adopted by the researcher is readdressed. Suggestions for future research and implications for EPs' practice are stated. Finally, the unique contribution of the research is acknowledged.

5.2 Effects of the anti-bullying curriculum on pupils' reported levels of bullying

5.2.1 Key Findings

The first question asked 'what are the effects of the anti-bullying curriculum on pupils' reported levels of bullying?' This was addressed using the 'My Life in Schools Checklist' (Arora and Thompson 1987; Smith 1992). It was hypothesised that there would be a statistically significant difference between the experimental groups and

control group in reported levels of bullying following the intervention. The descriptive analysis of the Bully Index data showed an overall decrease in reported levels of bullying in all three schools. However, this was not statistically significant. Therefore the null hypothesis was accepted that states ‘there will be no statistically significant difference between the experimental groups and control group in reported levels of bullying following the intervention’.

The General Aggression Index was also calculated for each school as Arora and Thompson (1987) state that schools are more likely to identify a reduction in aggression before a decrease in bullying. The descriptive analysis of the General Aggression Index data showed an overall decrease in reported levels of aggression in School 2 and School 3, and an increase in School 1. However, again this was not statistically significant and the null hypothesis was accepted. A surprising finding from the results was that although there was a reduction in reported levels of bullying in School 1, there was an *increase* in reported levels of aggression, contrary to the findings of Arora and Thompson. The findings will now be set in the context of existing research and literature.

5.2.2 Anti-Bullying Interventions and Levels of Bullying

There is evidence to suggest that anti-bullying interventions can lead to a reduction in reported levels of bullying (Olweus 1993a; Salmivalli, Kaukiainen and Voeten 2005; Whitney, Rivers, Smith and Sharp 1994). However, many of these studies are large scale and the interventions consist of multiple components so cannot be automatically compared to this study. More similar to this study, Andreou, Didaskalou and Vlachou (2007) investigated the long and short term effects of a four week anti-bullying curriculum on reported levels of bullying. They found no statistically significant reduction in bullying, although there was a slight decline; these findings are comparable to those of this study. It should also be noted that some studies have found that bullying actually increases following an intervention (Roland 1989). However, an increase in reported levels of bullying could be owing to the pupils having a better understanding of what bullying is and feeling more confident to report it rather than an actual increase in incidents of bullying.

5.2.3 Possible Explanations for the Findings

Possible reasons for the lack of difference between the experimental and control groups in reported levels of bullying and aggression following the intervention will now be considered. Firstly, it is conceivable that there was no statistically significant effect because the duration of the study was not long enough to have an impact on levels of bullying or aggression. Andreou, Didaskalou and Vlachou (2007) suggest that short term interventions are mainly effective in increasing awareness and changing attitudes towards bullying, but not in changing *actual* behaviour. In the literature bullying is described as being extremely persistent (Nishina 2004). In School 2 where reported levels of bullying were particularly high it is likely that the pupils needed the intervention to be longer in order for it to have an effect.

Another possible explanation for the lack of change in reported levels of bullying and aggression is that the intervention did not address bullying at a number of levels. The ecological perspective and pertinent studies, mainly the Sheffield Project (Whitney, Rivers, Smith and Sharp 1994) and Norway's Nationwide Project (Olweus 1993a; Roland 1989) have had a major impact on the types of interventions recommended to schools. It is now advised that bullying is tackled at a number of levels (e.g. the individual, family, peer group, school, community and culture) (Orphinas and Horne 2006; Swearer and Espleage 2004). If 'Defeat Bullying' (NSPCC 2007) had been coupled with other components there may have been a greater impact on reported levels of bullying and aggression. Although research and theory suggested that peers play a large part in either fuelling or preventing bullying behaviour (Craig and Pepler 1997; O'Connell, Pepler and Craig 1999; Salmivalli et al 1996; Tajfel and Turner 1979) there are other factors that need to be taken into consideration when tackling bullying such as individual differences (Crick and Dodge 1994) and family influences (Bandura 1977; Bowlby 1969). It is likely that a combination of the short duration of the intervention and that fact that it was based on a single component resulted in the lack of effect on reported levels of bullying and aggression.

The discussion now turns to consider possible reasons for the slight reduction in levels of bullying in all three schools (and aggression in School 2 and School 3). It is possible that this was due to '*maturation*'. This is when an observed effect may be due to the

biological and psychological changes of the participants between the pre and post-test, rather than the intervention itself (Cook and Campbell 1979). This is a plausible explanation since research suggests that levels of bullying decrease as pupils get older (Oliver and Candappa 2003; Whitney and Smith 1993). Pupils may have matured particularly quickly during the intervention period as in the author's experience, at the end of year 5 teachers often speak to their class about 'soon being in year 6' and having to 'set an example' to the rest of the school. However, realistically the duration of the study was not long enough for such an effect to be observed.

Another reason for the slight reduction in reported levels of bullying in all three schools could be the '*hawthorn effect*', whereby simply participating in the study has an effect on the responses given by the pupils owing to being part of 'something different' (Cohen, Manion and Morrison 2002). Furthermore, the pupils' responses may have been influenced by '*participant bias*' (Robson 2005). This is when the participants want to please or help their teacher and/or the experimenter by giving the 'right' answers. The presence of the experimenter and/or teacher may have influenced the pupils' responses as they wanted to impress or avoid sharing certain information.

5.3 Effects of the anti-bullying curriculum on teachers' reports on pupils behaviour

5.3.1 Key Findings

The second question asked 'what are the effects of the anti-bullying curriculum on teachers' reports on pupil behaviour?' This was addressed using the teacher version of the SDQ (Goodman 1997). Although the SDQ is not a direct measure of bullying, a decrease in difficult behaviour and an increase in prosocial behaviour may have been an indication of a reduction in bullying as a result of the intervention. Also, there is some research to suggest that children with a low prosocial score and high total difficulties score on the SDQ are more likely to report *being* bullied; this is especially true of boys (Johnson, Thompson, Wilkinson, Walsh, Balding and Wright 2002). Therefore, a reduction in the total difficulties mean score and an increase in prosocial score may also have been an indication of fewer pupils being victimised.

The experimental hypothesis predicted that there would be a statistically significant decrease in difficult behaviour and an increase in prosocial behaviour in the experimental groups compared to the control following the intervention. The descriptive analysis of the total difficulties mean scores showed an overall increase in reported levels of difficult behaviour by the class teacher in School 1 and School 3, and a decrease in School 2. Statistical analysis found an interaction effect between group and test time. However, post-hoc tests found that the only statistical difference was between School 2 and School 3 at the pre-test, therefore this was not a result of the intervention but owing to initial differences between the schools.

The descriptive analysis of the prosocial mean scores showed an overall increase in reported levels of prosocial behaviour by the class teacher in all three schools. Statistical analysis found an interaction effect between group and test time. However, the results of the post-hoc tests were not consistent enough to say that the prosocial scores were statistically significantly higher in the experimental groups compared to the control as on some occasions where a statistically significant difference was found the prosocial score was actually higher in the control group. The null hypothesis was accepted, which states 'there will be no statistically significant decrease in difficult behaviour or increase in prosocial behaviour in the experimental groups compared to the control group following the intervention'.

An interesting finding was that although there was an increase in the prosocial mean scores in all three schools there was also an increase in the total difficulties mean scores in School 1 and School 3 which seems like a contradiction. These findings will now be discussed in relation to a study identified in the systematic literature review.

5.3.2 Anti-Bullying Interventions and Behaviour

The research conducted by Frey et al (2005) is the only study from the systematic literature review that considers the impact of an anti-bullying intervention on behaviour in general. Frey et al (2005) found no statistically significant difference between the control and intervention group in teachers' reports of pupils' prosocial behaviour. These findings are similar to those of this study. However, Frey et al (2005) found a reduction

in argumentative/bossy behaviour and an increase in more agreeable interactions through the use of playground observations.

5.3.3 Possible Explanations for the Findings

Possible explanations for the lack of statistically significant difference in reported difficult and prosocial behaviour between the experimental groups and control group following the intervention are now considered. Similarly to the explanations given for the lack of reduction in reported bullying and aggression, the limited change in reported behaviour may have been owing to the intervention being too short or because the intervention was only made up of a single component. As with bullying, it is likely that behaviour takes a considerable amount of time to change therefore a longer intervention may have been needed. Furthermore, again as with bullying, behaviour is influenced by a number of factors such as home, peers and individual difference, therefore it needs to be addressed using a range of interventions throughout school. Alternatively, the small change in reported behaviour could be because the intervention was not tailored to influence all of the behaviours measured by the SDQ. For example, there is no reason to suggest that an anti-bullying intervention would have an impact on behaviours such as hyperactivity, which is one of the five sub scales. Finally, it is possible that an effect would have been detected if playground observations (as in Frey et al's 2005 study) had also been used to measure changes in difficult and prosocial behaviour. This is discussed further in section 5.9.2.

The overall increase in prosocial mean scores in *all* three schools could be due to '*maturation*'. As the pupils matured they may have started to show more prosocial behaviour (Cook and Campbell 1979). However, again it could be argued that the time scale was not long enough for this effect to take place. The teachers' responses may have been influenced by '*observer bias*' (Robson 2005), meaning that they felt obliged or under pressure to say that the pupils' behaviour had improved. The teachers may have felt this as the researcher spent a lot of time in the school, built up a relationship with the staff and supported in the delivery of the curriculum. Finally, a possible explanation for what seems like a contradiction in School 1 and School 3, this being an increase in both reported difficult and prosocial behaviour, is that the pupils' behaviour may have become increasingly difficult during certain times of the day (e.g. in lessons)

but improved during less structured times (e.g. breaks and lunchtime) or vice versa. However, this is simply speculation and there is no evidence to suggest that this was the case. This is an unexpected finding that the researcher would have liked to have explored with the class teachers and is addressed further in section 5.11.

5.4 Group Norms

It was predicted at the end of the literature review (section 2.16.1) that a change in reported levels of bullying and behaviour following the intervention would be indicative of an underlying change in the classroom norms with regards to bullying. This is because research and theory suggests that pupils are less likely to engage in bullying behaviour when it is non normative within the group (Duffy and Nesdale 2008; Salmivalli and Voeten 2004; Tajfel and Turner 1979). As there was no statistically significant effect on reported levels of bullying or behaviour following the intervention it can be inferred that there was no or minimal impact on the classroom norms. This is more understandable in School 1 and School 3 as levels of bullying were initially low, so it may be that there was already an anti-bullying norm within these classes. However, in School 2 reported levels of bullying were initially high, in comparison, so bullying was more likely to be normative. Despite this there was still no significant change following the intervention.

This raises questions in terms of whether anti-bullying curricula such as ‘Defeat Bullying’ can lead to a change in bullying group norms. If there is a bullying culture within a class that is well established and entrenched within the group then it is going to be difficult for a short intervention to take effect. Anti-bullying interventions may need to be longer and more intensive in order to have an impact. Furthermore, anti-bullying interventions may need to occur at multiple levels in order for them to take effect, as suggested by the ecological model. When trying to influence group norms, it is likely that it is essential that the peer group themselves are on board and motivated to create change. It is possible that in School 2 although the researcher and class teacher worked hard to create a change through delivering the curriculum, there was no effect as the peer group did not feel committed or inspired to alter the classroom norm. Finally, it may be questioned as to whether it was reasonable to attempt to intervene with group norms if, as suggested above, they are entrenched in the group and resistant to change. However, it was felt that this was a step worth taking based on the evidence from larger

multi-level interventions which suggest that bullying group norms can be changed (Olweus 1993a; Whitney, Rivers, Smith and Sharp 1994).

5.5 Effects of the anti-bullying curriculum on pupils' beliefs and attitudes towards bullying

5.5.1 Key Findings

The Pro-Victim Scale (PVS) (Rigby and Slee 1991a) was used to address the question 'what are the effects of the anti-bullying curriculum on pupils' beliefs and attitudes towards bullying?' Lesson 1 of the curriculum encourages the pupils to explore their own attitudes, values and understanding of bullying (Appendix 8.3). It was hypothesised that there would be a statistically significant increase in anti-bullying/pro-victim attitudes in the experimental groups compared to the control group following the intervention.

The descriptive analysis showed an overall increase in the PVS mean scores in School 1 and School 2 following the intervention, which suggests an increase in an anti-bullying/pro-victim attitude. There was no change in the PVS mean score in School 3 between the pre-test and post-test two, although there was a slight increase at post-test one. However, the findings were not statistically significant. Therefore the null hypothesis that states 'there will be no statistically significant increase in anti-bullying/pro-victim attitudes in the experimental groups compared to the control group following the intervention' was accepted. The findings will now be discussed in the context of previous literature and research.

5.5.2 Anti-Bullying Interventions and Attitudes

The effectiveness of anti-bullying interventions can take a long time to emerge, which can be demotivating and discouraging for schools (Smith and Sharp 1994). However, according to Sharp (1999), shifts in attitudes towards bullying can be detected much earlier on following an intervention. A number of studies report an increase in pupils' anti-bullying/pro-victim attitude following an anti-bullying intervention (Andreou, Didaskalou and Vlachou 2007; Frey et al 2005; Salmivalli, Kaukiainen and Voeten

2005). Beran, Tutty and Steinrath (2004) found that attitudes towards bullying became significantly worse in the control group but stayed stable in the intervention group.

Research shows that typically pupils tend to express an anti-bullying attitude (Boulton, Bucci and Hawker 1999; Rigby and Slee 1991a). This was found in all three schools in the current study. Even before the intervention they all had a mean PVS of above 20 (the highest score is 30 and a score below 20 indicates a pro-bullying or anti-victim attitude). Furthermore, research suggests that pupils who express negative attitudes towards bullying are also likely to report less bullying (Boulton, Bucci and Hawker 1999; Boulton, Trueman and Flemington 2002). This was found in School 1 and School 3 as they both had low reported levels of bullying and an overall anti-bullying/pro-victim attitude.

However, in School 3 despite there being an overall anti-bullying/pro-victim attitude (although it was slightly lower than the other two schools) there was still a high level of reported bullying and aggression. This is similar to the findings of Ortega and Mora-Merchan (1999) and Salmivalli et al (1996). Salmivalli and Voeten (2004) state that if bullying is viewed as a complex group interaction then a perfect attitude-behaviour link cannot always be expected. Even if a pupil considers bullying to be wrong and empathises with the victim there still may be other influences, such as group norms within the classroom, which encourage them to join in or not intervene in a bullying incident (Salmivalli and Voeten 2004). Ways of exploring further the mismatch in School 2 between attitudes towards bullying and actual reported levels of bullying are considered in section 5.9.3 and 5.11.

5.5.3 Possible Explanations for the Findings

Possible reasons for the lack of statistically significant difference between the experimental groups and control group's attitudes towards bullying following the intervention are now discussed. It is the author's view that the main reason that there was no statistically significant effect is because the majority of pupils already had an anti-bullying/pro-victim attitude *before* the intervention, so there was little room for improvement. Additionally, it can be argued there *was* a slight effect, as in School 1 and School 2, who both received the intervention, there was an overall increase in the

PVS mean score, whereas in School 3 there was no overall change. However, the sample size may have been too small to detect this effect. The issue of sample size is discussed in section 5.8.3.

5.6 Effects of the anti-bullying curriculum on the volume of responses given per group on how to intervene in a bullying situation

5.6.1 Key Findings

Vignettes developed by the researcher were used as a stimulus to elicit group knowledge of how to intervene in bullying situations. The question asked was ‘what are the effects of the anti-bullying curriculum on the volume of responses given per group on how to intervene in a bullying situation?’ Lesson 2 of the intervention focuses on the feelings involved in bullying and Lesson 5 encourages pupils to take action against bullying and resolve conflict (Appendix 8.3). In this lesson the pupils are introduced to a problem solving model which can be applied to bullying situations. They are given the opportunity to practise using it in small groups.

The experimental hypothesis stated that there would be a statistically significant increase in knowledge of how to intervene in bullying situations in the experimental groups compared to the control group following the intervention. The descriptive analysis of the vignette data showed an overall increase in the mean number of responses given to the vignette per group in all three schools. However, there was no statistically significant difference between the schools. Therefore the null hypothesis that states ‘there will be no statistically significant increase in knowledge of how to intervene in bullying situations in the experimental groups compared to the control groups following the intervention’ was accepted. These finding will now be discussed further in the context of existing research and literature.

5.6.2 Anti-Bullying Interventions and Knowledge of how to Intervene

Research suggests that peers are usually present during bullying episodes. For example, Craig and Pepler (1997) found that peers were involved in 85% of bullying incidents in some capacity. However, their involvement is rarely positive; O’Connell, Pepler and Craig (1999) found that peers spent 54% of their time reinforcing the bully by passively

watching, 21% of their time actively joining in by modelling the bully's behaviour and only 25% of their time intervening on behalf of the victim. Anti-bullying curricula typically aim to develop pupils' skills and knowledge on how to intervene safely in bullying situations and foster socially responsible behaviour (Frey et al 2005). None of the studies found in the systematic literature review measured pupils' knowledge of how to intervene in bullying situations using vignettes. However, Beran, Tutty and Steinrath (2004) asked pupils to indicate on a questionnaire what strategies they used when witnessing another student being bullied. Following the intervention the types of strategies that the pupils reported using when witnessing a bullying incident remained stable in both the intervention and control group following the intervention. These findings are comparable to those of this study.

5.6.3 Possible Explanations for the Findings

Possible explanations for the lack of difference between the experimental groups and control group following the intervention will now be discussed. The intervention may not have provided the pupils with any new knowledge, but merely confirmed what they already knew. The pupils may have already reached their peak in terms of knowledge of how to intervene in bullying situations before the intervention had started. Therefore, the independent variable was unable to have an effect on the dependent variable. It is possible that a more likely explanation is that there *was* a positive effect but this was not detected owing to the method used to analyse the data. Although the same number of ideas were given, the quality of thinking and responses produced by the pupils that received the intervention may have improved compared to those in the control. However, this was not detected as statistical analysis was used; a qualitative approach to the analysis would be needed to explore this. Further discussion is given to this in section 5.11.

A possible reason for the slight increase in knowledge of how to intervene in bullying situations in all three schools is '*maturation*', meaning that as the pupils got older their knowledge increased (Cook and Campbell 1979). However this is unlikely since Cowie and Sharp (1994) state that pupils do not just naturally acquire the skills needed to intervene in bullying situations but that the skills have to be taught explicitly, therefore this idea is rejected. A more likely explanation is an effect of '*testing*'. This is when

familiarity with a test can enhance the pupils' performance (Cook and Campbell 1979). The pupils may have become more experienced at working as a group and generating ideas of how to intervene in bullying situations as they had more practice. Additionally, as all the parents were informed about the intervention, this may have generated some discussion in the family home with the pupils, including those in the control group, in terms of what they should do in bullying situations. The appropriateness of using vignettes to measure pupils' knowledge of how to intervene in bullying situations is considered in section 5.9.4.

5.7 The impact of parental involvement on the effectiveness of the intervention

5.7.1 Key Findings

The question 'does parental involvement have an impact on the effectiveness of the intervention?' was addressed by comparing School 1 and School 2 in terms of the overall effectiveness of the intervention in all four areas: levels of bullying, behaviour, attitudes towards bullying, and knowledge of how to intervene in bullying situations. It was hypothesised that there would be a statistically significant greater effect in School 2 compared to School 1 in terms of the overall effectiveness of the intervention. In School 2, where the pupils received parental involvement, slightly greater positive effects were found compared to School 1 for each measure. However, none of the results were statistically significant. Therefore the null hypothesis that states 'there will be no statistically significant greater effectiveness in School 2 compared to School 1 in terms of the overall effectiveness of the intervention' was accepted. These findings are now discussed in light of existing research and literature.

5.7.2 Anti-Bullying Interventions and Parents

The decision to examine the impact of parental involvement on the effectiveness of the anti-bullying curriculum first arose from the systematic literature review. Four of the seven studies (Cross, Hall, Hamilton, Pintabona and Erceg 2004; Frey et al 2005; Rahey and Craig 2002; Salmivalli, Kaukiainen and Voeten 2005) involved parents in some way (e.g. regular newsletters, information evenings, anti-bullying committees and suggested family activities). However, whether or not parental involvement had a positive impact on the effectiveness of the anti-bullying interventions was not

addressed. The theoretical rationale for investigating the effectiveness of parental involvement is set in the context of ecological systems theory. This theory states that behaviour is influenced by an interaction of multiple factors (Orphinas and Horne 2006) and that bullying does not happen in isolation but is the result of a complex relationship between the individual, family, peer group, school, community and culture (Swearer and Espleage 2004). By involving parents in the intervention this meant that the study extended into another sphere of influence within the ecological model, this being the family context.

Research into the effectiveness of parental involvement on academic achievement is fairly inconclusive owing to the lack of a clear definition of the term 'parental involvement' (Fan and Chen 2001). In the methodology chapter (section 3.4.10.1) the parental involvement intended within the current study is described. The workshop aimed to develop positive home/school links and the sharing of information. This is referred to as 'communicating' by Epstein (1992). However, as so few parents attended the workshop a follow up information leaflet was sent to all the parents invited, outlining the information that would have been covered (Appendix 8.6). Pupils in School 2 were also given a piece of homework to complete with their parent every week linked to the curriculum (Appendix 8.4). The type of parental involvement intended here was pedagogic, otherwise referred to as 'teaching at home' (Epstein 1992).

Some research suggests that there is a positive association between parental involvement and pupil achievement in school (Englund, Luckner, Whaley, and Egeland 2004; Fan and Chen 2001). Epstein (1992) states that pupils achieve higher and have increasingly positive attitudes and behaviour when their parents are interested and involved in their education. However, this research and literature is not directly in relation to parental involvement in anti-bullying work in schools. Therefore, the systematic literature review and literature on parental involvement highlighted a need for more research into the possible benefits of involving parents in anti-bullying work.

5.7.3 Possible Explanations for the Findings

Possible explanations for the lack of statistically significant difference between School 1, who received the intervention, and School 2 who received the intervention plus

parental involvement are now considered. Firstly, it is possible that parental involvement does not increase the effectiveness of anti-bullying curricula. It could be that in relation to bullying, pupils are primarily concerned about the attitudes, beliefs and behaviour of their peers and that actually the attitudes, beliefs and behaviour of their parents is of less significance. Social identity theory (Tajfel and Turner 1979) emphasises the importance of group norms on predicting behaviour. It is possible that group norms are so influential that they over ride any attempt from parents to support their child in developing anti-bullying attitudes, beliefs and behaviour. However, there are theories of family influence such as social learning theory (Bandura 1977) and attachment theory (Bowlby 1969), along with supporting research, that suggest parents *are* important in influencing bullying behaviour. Yet it is possible that family influences become less significant as children get older.

It is possible that there was no significant effect of parental involvement owing to the poor attendance at the parental workshop. It was intended that the parental involvement would consist of support with homework through the weekly tasks *and* developing communication between the school and parents through the workshop. Georgiou (1997) found a positive association between volunteering and decision making in school (e.g. attending events organised) and academic achievement. However, as only three parents attended the workshop this element of the intervention was minimal. It is possible if more parents attended the workshop the effects would have been greater. Parental leaflets were sent out to try and compensate for the low attendance but there is no guarantee that these were read.

In addition to this there may have been no effect owing to the lack of commitment from pupils and parents to complete the homework. Approximately 50% of the pupils returned their homework in the first three weeks, however this dropped to approximately 30% in weeks four and five (see Table 3.6). If more parents had completed the homework with their child there may have been a positive effect, as found by Hoover-Dempsey, Battiato, Walker, Reed, De Jong and Jones (2001). In addition to this, parents completing the homework with their child may have done this more effectively if they had attended the workshop. In their study Cross, Hall, Hamilton, Pintabona and Erceg (2004) state that the strategies involving parents were the most difficult to apply. It is likely that it was a combination of the poor attendance at

the workshop and parents having greater priorities than the intervention itself that resulted in no effect being found.

Alternatively the lack of effect could be more specifically owing to the type of parental involvement employed in the study. As stated in the literature review a limitation of typologies of parental involvement (Epstein 1992; Georgiou 1997) is that they do not rank the types of parental involvement in terms of effectiveness. It could be that other types of parental involvement would have had a greater effect on anti-bullying work carried out in schools; there is a need for further research into this. It is also possible there was no statistically significant effect because the duration of the intervention was only five weeks long. Involvement from parents in anti-bullying work may need to be carried out over a longer period of time before positive effects occur.

Finally, from the data very slightly greater positive effects were found in School 2 compared to School 1 for each measure. Therefore, it is possible that there *was* an effect but the sample size may have been too small to detect this. This is discussed further in section 5.8.3. More realistically the slightly greater effects observed in School 2 compared to School 1 could be owing to contextual differences rather than the impact of parental involvement itself. This is discussed in section 5.8.2 below.

5.8 Limitations of the Study

General limitations of the study will now be considered.

5.8.1 Sampling Technique

The ability to generalise the findings of a study is largely affected by whether or not the sample used is representative of the wider population (Evans 2009; Robson 2005). There are two main sampling techniques, these being probability sampling and non-probability sampling. The main difference between the two is that probability sampling involves random selection of participants, whereas non-probability sampling does not (Robson 2005). An example of probability sampling is '*simple random sampling*' (SRS). This is when everyone in the population has an equal chance of being selected for the study and are selected at random (e.g. names pulled out of a hat). This approach removes any bias that can lead to participants with particular characteristics or attributes having a higher chance of taking part (Evans 2009).

A limitation of the current study is that non probability sampling was used. The schools in which the researcher already worked as a TEP were invited to participate. This is known as a '*convenience sampling*', meaning that the schools were chosen as they were readily available (Mertens 1998). A limitation of this approach is that those who participate may differ in some way to those who do not (Robson 2005). It is possible that the schools that were asked and then volunteered to take part in the study differ in some way to other schools in the LA. For example, the fact that the schools volunteered suggests that they are more concerned about bullying and/or more motivated to tackle bullying than others. Therefore caution should be exercised when generalising the results to other schools in the LA. An SSR approach in which three schools were randomly selected from all the mainstream primary schools in the LA would have removed this bias. However, Robson (2005) recognises that in practice probability sampling can be difficult when conducting research in the real world.

5.8.2 Contextual Differences

A threat to the internal validity of the study is the contextual differences between School 2 compared to School 1 and School 3. This is known as '*selection*', meaning that any observed differences may be due to initial differences between the groups (Cook and Campbell 1979). There are a number of demographic differences in School 2 compared to School 1 and School 3 as outlined in section 3.4.7 of the methodology chapter. School 2 was a junior school with fewer children on role. It had higher levels of free school meals, higher levels of children with SEN and a lower number of children from ethnic minority populations compared to School 1 and School 3. However, the author did not feel these differences were significant enough to exclude School 2 from the study as all the figures for all three schools were well below the expected national average (DCSF 2009b), suggesting that when set within a wider context, demographically the schools were actually quite similar.

Although all three schools volunteered to take part in the study School 2 appeared particularly keen to participate. The head teacher had recently received a number of complaints from parents regarding bullying in the school. This concern is reflected in the disparity of School 2's reported levels of bullying and aggression data (Figure 4.1 and Figure 4.2) compared to School 1 and School 3. It is likely that because of this

concern School 2 were more motivated, enthusiastic and/or committed to the intervention compared to School 1 and School 3. Therefore any differences between the experimental conditions may be owing to these factors rather than the intervention itself. For example, the fact that School 2 did slightly better on all measures compared to School 1, as discussed in section 5.7.1 and 5.7.3 could be owing to School 2's commitment to the project rather than the additional involvement of parents.

Another factor which needs to be taken into account is that School 2 had higher levels of bullying from the outset compared to School 1 and School 3. It can be argued that with higher levels of bullying any intervention is likely to be more effective as there is more opportunity to have an impact. Again, the fact that School 2 saw very slightly better effects on all measures compared to School 1 could be owing to the initial higher levels of bullying rather than the intervention plus parental involvement condition that they were placed in. Therefore, it is likely that School 2's enthusiasm for the project and initial higher reported levels of bullying will have affected the results. Despite this it was felt that once School 2 had expressed a concern about the level of bullying it would have been unethical to exclude them from the study as they were enthusiastic to participate, demographically similar to the other two schools and in need of support.

5.8.3 Sample Size

When conducting experimental research it is important that there is sufficient power to detect a significant effect (providing that there is one). Typically, the larger the sample size the greater the power (Evans 2009). For different types of research there are 'rules of thumb' about the appropriate sample size needed (Mertens 1998). Borg and Gall (1989) recommend approximately 15 participants per group when conducting quasi experimental research. In this study the sample size for each group exceeded this (School 1 $n = 25$, School 2 $n = 22$, School 3 $n = 22$). However, Cohen (1992) provides a more comprehensive guide to the number of participants needed to detect either a large, medium or small effect when using different statistical tests. For example, from the table presented in Cohen's (1992, p.4) paper it recommends that to detect a large difference between two independent sample means, with a significance level of $p = 0.05$ a sample size of 26 participants per group would be required, to detect a medium effect 64 participants per group is suggested and for a small effect 393 participants per group.

Therefore, it is possible that for some of the dependent variables there was a medium or small effect following the intervention; however this may not have been detected owing to the relatively small sample size. If the study were to be replicated a large sample size would be recommended. However, it should be noted that decisions about sample size are often influenced by time, cost and the willingness of people to participate (Bryman 2009; Mertens 1998), which were all factors in the current study.

5.8.4 Gathering of Data

Given the nature of the data being gathered it was decided that individual responses given by pupils should be totally anonymous. This was thought to be necessary in terms of gaining consent from the pupils and parents; they may have felt uneasy about agreeing to divulge sensitive information without this assurance. Secondly, without total anonymity honest responses to the questionnaires may not have been obtained from pupils as they may have felt fearful or embarrassed to tell the truth about their experiences of bullying and aggressive behaviour. The need to hand out coded questionnaires to specific children could in itself have raised concerns that their responses would not be truly anonymous.

However, in retrospect it may have been better to compromise slightly on the anonymity of the self-report questionnaires (My Life in Schools Checklist and PVS) in order to enable a more sophisticated statistical analysis to have been conducted. As the Bully Index and General Aggression Index data from the My Life in School Checklist (Arora and Thompson 1987; Smith 1992) in School 1 and 2, and School 2 and 3 were not equivalent at the pre-test, statistical analysis had to be conducted to see if there was a significant difference within each school across test times. However, as the data were not matched (see section 3.5.7) it was not possible to carry out the Wilcoxon matched pairs test which looks for a significant difference between related sets of scores. Therefore, the independent samples Mann Whitney U test was used to compare the Bully Index and Aggression Index within each school across test times. The Mann Whitney U test is not typically used in this way, although it seems reasonable to do so.

The Mann-Whitney U test and Wilcoxon tests both assess whether there is a statistically significant difference between the means of two conditions, however the formula for

each test is slightly different (Dancey and Reid 2007). For the Mann-Whitney U test all the participants scores are ranked from the lowest to the highest, the test then calculates the number of times that one condition is ranked higher than the other. However, with the Wilcoxon test the difference between each participant's set of scores is calculated and then the differences are ranked from highest to lowest. Finding the difference between the scores before ranking them provides a more sensitive test. Coding the questionnaires would have allowed the scores to be matched and therefore the more sensitive Wilcoxon test could have been carried out on the data.

5.8.5 Design

The study employed a pre-test, post-test non-equivalent groups, quasi experimental design. The researcher did not anticipate the extent to which reported levels of bullying at the pre-test would differ between the schools. If the participants had been randomly allocated to the groups this would have increased the likelihood of equivalence between groups, meaning that any additional factors (e.g. school ethos, pupils' attitude towards bullying) were apportioned out. However, by employing a quasi-experimental design a number of threats to internal validity that may have resulted in the equalisation of groups were reduced e.g. diffusion of treatment, compensatory equalisation of treatments and compensatory rivalry.

5.8.6 Measuring of Group Norms

It was argued that a change in reported levels of bullying and behaviour would have been indicative of a change in the group norm. The study could have been strengthened by measuring the group norms in each class before and after the intervention to see if this change had actually occurred. However, this was not possible because as stated by Salmivalli and Voeten (2004) measures of classroom norms are limited and generally lack reliability and validity as they have not been standardised on a wider population. This is an area for development. A measure of group norms would have also allowed the author to explore further the mismatch between the reported anti-bullying/pro-victim attitudes in School 2 yet high levels of reported bullying within the classroom. The thesis will now turn to discuss the strengths and limitations of the measures that were used.

5.9 Appropriateness of the Measures Used

5.9.1 My Life in Schools Checklist

The 'My Life in Schools Checklist' (Arora and Thompson 1987; Smith 1992) avoids asking the pupils directly 'are you being bullied?' This is a strength of the measure as doing so could produce unreliable results. Pupils may have a different perception of what bullying is and the word 'bullying' is emotive, so its use in the questionnaire may have prevented the pupils from answering honestly (Sharp and Smith 1994). Another positive aspect of the measure is that it asks the pupils to report events which have happened to them within the current week. This means that the information given by the pupils is likely to be more accurate than if they were asked for example to think back over the past month, term or year (Sharp and Smith 1994).

As stated in the literature review, bullying can take a variety of forms and is generally characterised as being direct and physical, direct and verbal, or indirect (Smith and Sharp 1994). Research suggests that boys tend to experience more physical bullying, whereas for girls, some research suggests that indirect bullying is more common (Ahmad and Smith 1994; Olweus 1993a; Whitney and Smith 1993). A limitation of the 'My Life in Schools Checklist' is that the Bully Index and Aggression Index are calculated using six items that only describe direct verbal and physical bullying/acts of aggression, notably 'tried to kick me', 'said they'd beat me up', 'tried to make me give them money' 'tried to hurt me', 'tried to break something of mine' and 'tried to hit me'. None of the items address indirect forms of bullying (e.g. gossip, spreading rumours, exclusion from a social group). Ahmad and Smith (1994) state that studies that fail to examine indirect forms of bullying may result in the frequency of bullying in females being underestimated. This could be the case in this study. Arora (1999) also acknowledges that the 'My Life in Schools Checklist' may be biased towards detecting bullying in boys compared to girls.

Taking account of the above, the study could have been strengthened by using a measure that detected indirect bullying such as spreading rumours, gossiping and excluding pupils from social groups. Frey et al's (2005) study included playground observation, which if used in this study may have provided more information in terms of the intervention's effectiveness. However, Frey et al (2005) acknowledge that even

with playground observations it is unlikely that all bullying behaviours will be witnessed. In particular, indirect forms of bullying such as gossip may go unnoticed.

5.9.2 Strengths and Difficulties Questionnaire

The SDQ provided useful information in terms of the teacher's views on the pupil's difficult and prosocial behaviour. The fact that the teachers completed it also meant that the study did not rely solely on self-report measures completed by the pupils; these can be susceptible to bias as pupils do not want to admit their involvement in bullying (Eliot and Cornell 2009). The SDQ data could have been strengthened by coupling it with playground observations (similar to Frey et al 2005) to see if there was an *actual* change in the pupils' difficult and prosocial behaviour following the intervention. It may be that changes were made in the pupils' behaviour but this was mainly on the playground which the class teacher will not have necessarily seen. It ought to be noted that the results of the post-test two SDQ should be interpreted with caution as they were completed in September at the start of a new academic year. Some teachers commented that they found it hard to make a judgement about the pupils' behaviour as they had only had the pupils in their class for approximately one week. It would have been more appropriate to take the post-two measures later on in the autumn term.

5.9.3 Pro-Victim Scale

The PVS questionnaire provided a useful measure of the pupils' attitudes and beliefs towards bullying and has been used in the evaluation of other anti-bullying interventions (Beran, Tutty and Steinrath 2004; Cross et al 2004). The only observed limitation of the measure was the language used in some of the statements such as '*soft kids make me sick*' and '*nobody likes a wimp*'. In all three schools pupils asked for the meaning of these statements. This suggests that children and young people within the UK do not use words such as 'wimp', 'soft' and 'sick' when discussing bullying. If this measure was to be used again the author would recommend having a clear definition of these words to share with the pupils or changing the wording slightly to make the statements more meaningful.

5.9.4 Vignettes

This study took a unique approach to measuring pupils' knowledge of how to intervene in bullying situations. The groups were able to respond freely to the vignettes, meaning that their ideas were not constrained by closed questionnaires. However, it is acknowledged that by administering the vignettes to small groups this may have allowed group processes to have an effect on the responses given. It cannot be assumed that pupils within the group were expressing their own individual views and ideas as they may have been influenced by the presence of their peers. For example, feeling pressured to conform to the views of the other pupils. If they had been asked to respond individually to the vignettes their responses may have been different in number and type.

It is also important to address the potential effect that the gender aspect of the vignettes may have had on the responses given. It is possible that the girls identified more with vignette one, in which the characters are female, and the boys with vignette two, where the characters are male. Therefore, it is possible that at post-test one the girls' knowledge *did* increase following the intervention but they didn't identify strongly with the male character in the vignette so gave fewer responses than they would have if the character had been female. Similarly the results could have been distorted for the boys. They may have given fewer responses at the pre-test as they could not relate to the female in vignette one but more in vignette two as they identified more strongly with the scenario presented. As the pupils worked in mixed sex groups it is difficult to identify these potential differences in the responses given by the boys and girls. On reflection it may have been better to use unisex names for the victim and not specify the gender of the bullies by just saying 'a group of pupils' rather than a 'group of boys/girls' to prevent this gender bias from occurring.

Another limitation of the vignettes is that, although an attempt was made to address the internal reliability of the vignettes in the pilot study (section 3.6.1), there is no evidence in terms of the stability or inter-observer consistency of the vignettes. Before conducting the study it would have been beneficial to use the test-retest method to check that pupils' responses to the vignettes remain stable over time. Furthermore, the researcher could have asked a colleague also to score the vignettes in order to check for

consistency and agreement. The findings from the vignette data could have been strengthened by also conducting playground observations, to see if there was an *actual* change in the pupils' behaviour during bullying episodes following the intervention. As stated in the methodology, a limitation of vignettes is that a direct link between beliefs and actions cannot be assumed (Hughes 1998). However, this would have been difficult owing to restraints on time, cost and resources, but it is a suggestion for future research. Finally, on reflection the data from the vignettes could have been analysed using qualitative methods; this is discussed in section 5.11.

5.10 Reflections on 'Defeat Bullying'

Informal feedback from the staff and pupils regarding 'Defeat Bullying' (NSPCC 2007) was extremely positive. At the start of one lesson a pupil from School 2 said to the researcher "*Yes! We've been waiting for this lesson!*" It is likely that the pupils enjoyed the lessons owing to them being practical and fun (e.g. discussions, games, small group work, poems making posters etc.) and as indicated by their enthusiasm, their own interest in trying to combat bullying. It is suggested that there was a relatively high level of treatment integrity with regards to the intervention; meaning 'Defeat Bullying' was delivered by the teachers, and therefore evaluated, as intended. Although an actual measure of treatment integrity was not used, an attempt was made to establish treatment integrity through regular conversations with the class teachers about how each lesson should be delivered. The researcher was also present at each lesson to support with this. This adds to the validity of the study and is described further in section 3.7.2 of the methodology chapter.

A suggestion for improving the intervention would be to include more activities on the issue of cyber bullying. Following Lesson 4, which briefly addresses cyber bullying, the class teacher in School 2 continued to work with the pupils on this topic during the following week. The teacher felt that not enough time was dedicated to this issue within the lesson and furthermore, there was a clear interest from the pupils to explore it further. This is not surprising since research suggests that cyber bullying is a concern for children and young people. In the '*Staying Safe Survey*' (DCSF 2009a) cyber bullying was reported the third most frequent type of bullying experienced by children and young people, with teasing/name calling being first and physical bullying second.

Therefore cyber bullying should be addressed explicitly in anti-bullying interventions with a significant emphasis placed on this new type of bullying. Although some traditional methods used for combating bullying may be useful in terms of cyber bullying, it is likely that more specific strategies such as how to contact an internet provider to report bullying or how to block someone on a social networking site ought to be taught.

5.11 Epistemological Stance Adopted by the Researcher

The epistemological stance adopted by the researcher was one of post-positivism and quantitative data was gathered, as the researcher was interested in the causal relationship between the intervention and its impact on issues of bullying. However, on reflection a mixed methods approach would have enriched the findings of the study. This is referred to as a 'pragmatic stance' (Robson 2005). The pragmatic approach uses which ever method that works best for the research question being asked. The consequence of this is that often both qualitative and quantitative data is gathered. For pragmatics truth derives from 'what works' (Robson 2005). It has been argued that the central principles of both qualitative and quantitative methods are in fact compatible (Reichardt and Rallis 1994) and using them together acknowledges that finding the 'truth' of reality is a multiple and complex task. Whilst historically the two paradigms have been seen as competing opposites, there is an increasing recognition amongst researchers that this divide is actually artificial and unnecessary (Todd, Nerlich and McKeown 2004).

Robson (2005) states that researchers should not feel constrained to a particular method when conducting research and that there are a number of advantages to using a mixed methods approach. A commonly cited advantage is triangulation. Triangulation takes advantage of using different methods to get a more accurate picture of what is going on (Robson 2005). If two methods are used that have different strengths and weaknesses but yield similar results then this can increase the researcher's confidence in the findings and conclusions being drawn (Todd, Nerlich and McKeown 2004). Mixed methods can also be used to answer different but complementary questions within a study or enhance the interpretation of the findings (Robson 2005). For example, in a primarily quantitative study qualitative data can be gathered to enhance the researcher's

understanding of the results. Furthermore, Robson (2005) states that qualitative research methods typically focus on the micro aspects of life, whereas quantitative methods tend to examine larger, more general macro aspects. By using mixed methods the two levels can be studied together.

There are some patterns in the data that the author would have liked to have investigated further. Conversations with the pupils and staff would have helped the researcher to gain a greater understanding of the results and enhanced the interpretation of the findings. For example, if a mixed methods approach had been used the researcher would have been able to explore further with staff and pupils in School 2 why reported levels of bullying and aggression were so high despite the vast majority of the pupils reporting an anti-bullying/pro-victim attitude. Furthermore, a mixed methods approach would have allowed the researcher to explore the increase in difficult behaviour *and* prosocial behaviour with the teachers in School 1 and School 3.

Finally, on reflection a qualitative analysis of the pupils' responses to the vignettes would have been more appropriate. In the study the responses given to the vignettes were counted and analysed statistically. However, this data may be misleading. For example, just because the number of responses stayed approximately the same following the intervention, this is not to say that the quality of the pupils' responses and thinking did not improve following the intervention. The content of their ideas may have shown a greater understanding of appropriate ways to intervene and more empathy towards the victim. Therefore, a qualitative analysis would have allowed this research question to have been answered more effectively and accurately.

5.12 Future Research

A number of areas for future research have been identified from the study. Firstly, although the results suggest that on its own 'Defeat Bullying' has no statistically significant effect, it is possible that it could do when used in combination with other strategies, as indicated by the ecological model. Secondly, throughout the discussion the need for more research that involves observations to measure the effectiveness of anti-bullying interventions has been suggested. The use of observations may strengthen the validity of research findings when coupled with questionnaires. Additionally, the study

has highlighted the need for a greater understanding of the inconsistency that sometimes occurs between pupils' attitudes towards bullying and reported levels of bullying, as seen in School 2. Although a pupil may believe that bullying is wrong, there may be other influences that lead to the pupil to joining in with, or simply watching, bullying incidents (Salmivalli and Voeten 2004). More research is needed to consider the group norms operating within schools that possibly influence pupils' bystander behaviour. Improving the measures of classroom norms with regards to bullying behaviour is also a challenge for the future (Salmivalli and Voeten 2004).

Research into cyber bullying is still in its early stages (Smith et al 2008). More research is needed into the impact that cyber bullying has on pupils' health compared to more traditional bullying. Furthermore there is a need for a greater understanding in terms of the types of strategies that are effective in tackling cyber bullying. Finally, there is a clear need for further research into whether or not parental involvement is important in anti-bullying interventions, and if so what type of parental involvement is the most effective.

5.13 Implications for EP Practice

Given the research into the effects of bullying on physical health and emotional wellbeing (e.g. Olweus 1993b; Rigby 2002; Rigby and Slee 1993; Williams, Chambers, Logan and Robinson 1996) and the commitment of recent governments to tackle bullying in schools (Department for Education 2010), there is a clear role for EPs to support pupils, parents and staff in developing good anti-bullying practice. The research and theory drawn upon in this study clearly highlights the importance of involving peers in anti-bullying interventions and possibly parents. EPs have the knowledge and skills to support schools in developing a number approaches to tackle bullying which is in keeping with the ecological model.

Establishing or readdressing the whole school anti-bullying policy may be the starting point in terms of supporting schools. An anti-bullying policy which involves and promotes a collective responsibility from staff and pupils has been recommended by several writers as an essential ingredient in terms of tackling bullying (Olweus 1993b; Sharp 1996; Sharp and Thompson 1994). Once this has been established, other

strategies could be developed such as whole school assemblies aimed at addressing bullying issues, small group work to support bullies and/or victims, peer support systems, an anti-bullying curriculum and parental involvement. It is the role of the EP to ensure that interventions recommended have a clear evidence base and/or rationale, and that the outcomes of any interventions are evaluated.

EPs should encourage schools to take various pre measures when supporting them in developing anti-bullying interventions. This will help staff, pupils and parents to gain an initial understanding of the issues specific to their school in terms of the types of bullying and the beliefs and attitudes of the pupils. From this an intervention tailored to the needs of the school can be developed. Post measures should then be taken to measure the impact of the intervention. There is also a continuing role for EPs to support LAs at a more strategic level in developing anti-bullying interventions.

5.14 Unique Contribution of the Study

This study offers a unique contribution to the body of anti-bullying research by investigating the effectiveness of a single component anti-bullying intervention. Typically, studies into the effectiveness of anti-bullying interventions involve interventions that have a number of components however the current study shines a spotlight on the involvement of peers by drawing on existing research and theory. The study found that 'Defeat Bullying' (NSPCC 2007) did not have a statistically significant effect on reported levels of bullying, behaviour, attitudes towards bullying or knowledge of how to intervene in bullying situations. Possible reasons for this are discussed. Where slight changes were detected alternative mechanisms of change are explored through theory and/or methodological issues.

The study also examines the influence of parental involvement on the effectiveness of the curriculum. Although a number of studies identified from the systematic literature review involved parents (Cross, Hall, Hamilton, Pintabona and Erceg 2004; Frey et al 2005; Rahey and Craig 2002; Salmivalli, Kaukiainen and Voeten 2005) there has been no attempt to measure the impact of this. In this study the impact of parental involvement was measured in order to examine the combined effect of receiving the curriculum plus parental involvement, compared to those pupils who just received the curriculum. Although no significant effect of parental involvement was found the study raises new questions in terms

of whether parental involvement is important in anti-bullying work and if so what type of parental involvement is most effective. Finally, a unique approach is taken within the study to measuring pupils' knowledge of how to intervene in bullying situations. The findings of the study will contribute to the growing evidence and debate around 'what works' in terms of reducing bullying in schools.

6. Conclusion

Bullying is a key concern of the current Coalition government (Department for Education 2010). Reported levels of bullying in the UK are a concern (Oliver and Candappa 2003; Whitney and Smith 1993) and there is evidence to suggest that bullying has long lasting effects on health (Olweus 1993b). Research suggests that peers play an important role in either fuelling or preventing bullying behaviour (Craig and Pepler 1997; O'Connell, Pepler and Craig 1999; Salmivalli et al 1996). Pupils typically reinforce bullying by joining in or passively watching. This behaviour can be explained from a social identity theory perspective (Tajfel and Turner 1979) which states pupils are more likely to display bullying behaviour if there is a bullying norm within the class. This is because they are eager to maintain a positive social identity. Therefore the decision was made to evaluate the effectiveness of a whole class anti-bullying intervention, with the aims being to reduce reported levels of bullying, develop anti-bullying attitudes, increase knowledge of how to intervene in bullying situations and ultimately create an anti-bullying group norm.

The study found that 'Defeat Bullying' (NSPCC 2007) did not have a statistically significant effect on reported levels of bullying, teacher's reports on pupil behaviour, attitudes towards bullying or knowledge of how to intervene in bullying situations. This raises questions in terms of whether group norms can be influenced through anti-bullying curricula and highlights the need for measures of group norms to be developed. It also raises questions about the particular curriculum used. There was no statistically significant difference between School 2 who received the intervention plus parental involvement compared to School 1. It is possible that there would have been a significant effect if the level of parental participation within the anti-bullying workshop and homework was higher. However, further research needs to be carried out in terms of whether parents *are* important in anti-bullying interventions and if so what type of parental involvement is the most effective.

7. References

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8. Appendices

Appendix 8.1: Information Letter to Head Teachers

Dear Colleague,

I am undertaking a doctorate degree in Applied Educational Psychology at the University of Nottingham and employed by _____ as a Trainee Educational Psychologist. I am writing to invite your school to take part in a research study to evaluate the effectiveness of an anti-bullying curriculum called 'Defeat Bullying' (NSPCC 2007).

If you agree to take part in the study and your school is selected, your school will be placed in one of three groups,

1. An intervention group
2. An intervention group plus parental involvement
3. A control group (where they will receive no intervention)

Firstly, all students in Year 5 will be asked to complete two self report questionnaires in order to measure reported levels of bullying and their attitude towards bullying. They will also be asked about their knowledge of how to intervene in bullying situations. In addition to this, the class teacher will be asked to complete a questionnaire for a number of students' regarding their strengths and difficulties in relation to behaviour in class.

If your school is placed in one of the intervention groups I anticipate that this will be a valuable and enjoyable experience for both the school and students. The class will be given 5 anti-bullying lessons delivered by the class teacher and facilitated by myself. These will be delivered in the Summer Term 2. The lessons aim to

- develop an awareness of bullying behaviour
- enhance children's confidence and ability to offer support to victims of bullying
- encourage children to take responsibility and seek help

Each lesson will last approximately 1 ½ hour and will involve activities such as role play, listening to stories, games, group work and whole class discussions.

If your school is placed in the intervention group plus parental involvement, parents of the Year 5 students will be invited to attend an anti-bullying workshop within school ran by me, which will last approximately 1 hour. The aim of the workshop will be to raise awareness of bullying, provide information about the anti-bullying curriculum and inform parents as to how they can support their children at home to consolidate and expand their child's learning. Students will also be given a piece of homework every week to complete with their parents.

If your school is placed in the control group, where no intervention will take place, you will have the opportunity to receive the intervention at the start of the next academic year providing its effects are significantly beneficial.

At the end of the 5 week intervention the Year 5 students from all 3 schools will be asked to complete the same self report questionnaires in order to measure reported levels of bullying and their attitude towards bullying. They will also be asked again about their knowledge of how to intervene in bullying situations. In addition to this, the class teacher will be asked to complete a second questionnaire about a number of student's strengths and difficulties in relation to their behaviour in class.

All data collected will be anonymous, kept confidential and used for research purposes only. I need to point out that depending on the level of interest it may not be possible to include all the schools that express an interest. However, any school not included in the study will be offered anti-bullying support from a member of the Educational Psychology and Behaviour Support Team (EPBST).

I hope that you are interested in taking part in this study and that you see it as a valuable opportunity for your school. Please email or telephone me if you wish to participate or have any questions. I look forward to hearing from you and I hope that you agree to take part.

Yours Sincerely

Appendix 8.5: Parent Workshop Power Point

Parent Workshop

Defeat Bullying

May 2010

Aims

- To briefly outline the research study
- To raise parents awareness of bullying
- To get parents involved/interested in the 'Defeat Bullying' curriculum
- To outline the lessons and home works

Research

- What is the impact of the curriculum on the students
 - 1) Reported levels of bullying
 - 2) Attitude towards bullying
 - 3) Knowledge of how to intervene in bullying situations
- What is the impact of parental involvement?

Activity 1

- What is Bullying ?

What is Bullying?

- "Bullying is a form of aggression in which one or more children repeatedly and intentionally intimidate, harass or physically harm a victim" (Glew, Rivara and Feudtner 2000)
- The core elements of bullying are
 - 1) Imbalance of power
 - 2) Intentional
 - 3) Repeated over time(Orphinas and Horne 2006)
- Bullying is not "*an odd fight or quarrel between children of approximately equal strength*" (Sharp and Smith 1994)

Types of Bullying

Bullying can take a variety of forms

- 1) Direct and Physical e.g. hitting, tripping someone up or taking their belongings
 - 2) Direct and Verbal e.g. name calling, taunting, mocking and making threats
 - 3) Indirect e.g. spreading rumours or deliberately excluding someone from a social group
- (Smith and Sharp 1995 p.g.6)

Prevalence of Bullying in UK

- Oliver and Candappa (2002)
- Children in 6 primary and 6 secondary schools from around the UK were asked about their experiences of bullying
- 51% of primary and 54 % of secondary school pupils thought that bullying was 'a big problem' or 'quite a problem' in their school.
- 51% Year 5 pupils reported that they had been bullied during that term and 28% of pupils in Year 8.

The Effects of Bullying

- Research shows that bullying can effect a child's physical and emotional health!

victims of bullying more often report

- sleep disturbances
- abdominal pain
- headaches
- feeling sad than children who are not bullied (Williams, Chambers, Logan and Robinson 1996)
- Effects of bullying may persist over time. Study by Olweus (1993) showed that children bullied repeatedly in middle school had lower self esteem and more depressive symptoms as adults

Anti Bullying Curriculum

- Defeat Bullying (2007)
- Developed by NSPCC for anti-bullying campaign
- Aimed at KS2/3/4 pupils
- 5 lesson plans available to teachers online

Aims

- Develop an awareness of bullying behaviour
- Enhance children's confidence and ability to offer support to victims of bullying
- Encourage children to take responsibility and seek help



Why Curriculum Based Interventions?

- Peers can play a central role in the problem of bullying
- Peers involved in 85% of bullying episodes (Craig and Pepler 1997)
- Peers intervened in 11% of episodes
- Teacher's intervened in 4% of episodes
- Peers can reinforce bullying by actively joining in or simply watching (O'Connell et al 1999)
- To prevent this peers can be taught to intervene to support the victim or ignore the bullying behaviours.

Lesson 1 First Steps (Encourages pupils to explore their own attitudes, values and understanding of bullying)

Lesson 2 Put Yourself in Their Shoes (Focuses on embracing diversity)

Lesson 3 Walk Tall and Proud (Helps pupils deal with emotions)

Lesson 4 Safe Steps (Helps pupils develop skills in making safe decisions)

Lesson 5 Take a leap forward (Explains how children can take action against bullying)

Activity 2

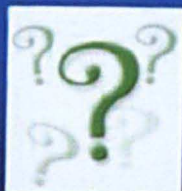
- Where do you stand?

Activities Linked to Lesson

- 1 homework per week to do at home with an adult
- Complete and return for the following week
- Aimed at consolidating what has been taught in the lesson
- Discussion based



Comments and Questions



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Aims

This leaflet aims to:

- Briefly outline the research study
- Raise awareness of bullying
- Get parents interested and involved in the 'Defeat Bullying' (NSPCC 2007) curriculum.
- Outline the lessons and homeworks that your child will be taking part in

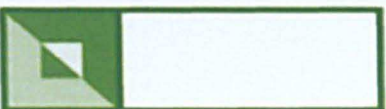
Outline of the Research Study

As you are already aware your child's school has agreed to deliver the anti-bullying curriculum 'Defeat Bullying' (NSPCC 2007). I am evaluating the effectiveness of the curriculum, with a focus on:

- The pupils reported levels of bullying
- Their attitudes towards bullying
- Their knowledge of how to intervene in bullying situations
- The impact of parental involvement on the effectiveness of the curriculum

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Information Leaflet for Parents



What is Bullying?

"Bullying is a form of aggression in which one or more children repeatedly and intentionally intimidate, harass or physically harm a victim"

(Glew, Rivara and Feudtner 2000)

The core elements of bullying are

- 1) Imbalance of power
- 2) Intentional
- 3) Repeated over time

(Orpinas and Horne 2006)

Bullying is not *"an odd fight or quarrel between children of approximately equal strength"*

(Sharp and Smith 1994)

Bullying can take a variety of forms

- Direct and Physical e.g. hitting, tripping someone up or taking their belongings
- Direct and Verbal e.g. name calling, taunting, mocking and making threats
- Non-direct e.g. spreading rumours or deliberately excluding someone from a social group

(Smith and Sharp 1995)

'Defeat Bullying' Curriculum

Peers can reinforce bullying by actively joining in or simply watching.

To prevent this peers can be taught to intervene to support the victim of bullying or ignore the bullying behaviour.

The 'Defeat Bullying' (NSPCC 2007) curriculum that your child will be taking part in consists of 5 lessons.

Lesson 1 – Encourages pupils to explore their own attitudes, values and understanding of bullying

Lesson 2 – Raises awareness of the feelings involved in bullying

Lesson 3 – Focuses on embracing diversity

Lesson 4 – Raises awareness of keeping safe in vulnerable situations, both in school and the local neighbourhood

Lesson 5 – Encourages pupils to take action against bullying and resolve conflict



Homework Activities

- Your child will be given a homework activity every week, for 5 weeks
- They should complete this at home with an adult
- The homeworks are aimed at consolidating what has been taught in the lessons
- Your child will be asked to return this to school the following week
- The homeworks are aimed to be discussion based and fun!
- Parents can write their child's ideas on the homework sheets if they wish

Thank you for your support. Please feel free to contact me on the details below if you have any questions about the research study or content of this leaflet

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Appendix 8.7: Calculating the Bully Index and General Aggression Index

To calculate the Bully Index the following steps are followed:

Step 1: For each of the six items identified ('tried to kick me', 'said they'd beat me up', 'tried to make me give them money' 'tried to hurt me', 'tried to break something of mine' and 'tried to hit me') count the number of times that a tick was placed in the 'more than once' box. Do this separately for each item, for all the completed questionnaire.

Step 2: For each of the six key items divide the score by the number of completed questionnaires and times by 100. This provides a percentage of pupils that responded with 'more than once' for each item.

Step 3: Add the six percentages together

Step 4: Divide this by six. This gives the Bully Index

To calculate the Aggression Index firstly, steps 1 and 2 are followed above. Following this

Step 3: For each of the same six items identified above count the number of times that a tick was placed in the 'once' box, for all the completed questionnaire.

Step 4: Divide the score by the number of completed questionnaires and times by 100. This provides a percentage of pupils that responded with 'once' for each item.

Step 5: Add the 12 percentages (the six above and those from the Bully Index)

Step 6: Divide this by 12. This gives the General Aggression Index

(Sharp 1999)

Appendix 8.8: Strengths and Difficulties Questionnaire (teacher version)

Strengths and Difficulties Questionnaire

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months or this school year.

Child's Name

Male/Female

Date of Birth.....

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restless, overactive, cannot stay still for long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often complains of headaches, stomach-aches or sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shares readily with other children (treats, toys, pencils etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often has temper tantrums or hot tempers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rather solitary, tends to play alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally obedient, usually does what adults request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many worries, often seems worried	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helpful if someone is hurt, upset or feeling ill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Constantly fidgeting or squirming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has at least one good friend	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often fights with other children or bullies them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often unhappy, down-hearted or tearful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally liked by other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easily distracted, concentration wanders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nervous or clingy in new situations, easily loses confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kind to younger children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often lies or cheats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Picked on or bullied by other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often volunteers to help others (parents, teachers, other children)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thinks things out before acting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Steals from home, school or elsewhere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gets on better with adults than with other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many fears, easily scared	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sees tasks through to the end, good attention span	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature

Date

Parent/Teacher/Other (please specify:)

Thank you very much for your help

© Robert Goodman, 2005

Appendix 8.9: Vignettes

Scenario 1

Imagine a school like yours. Imagine that it has a playground where every day the children are running around together, playing games and laughing. It is a really good place to be. Now imagine that every day you see a child who is not laughing or playing with the other children. At playtime Sarah stands next to the fence on her own. A group of girls from Sarah's class always say unkind things to her about her clothes and her hair. 'We'd better not get too close or we might catch something' says Natasha. The others copy what Natasha is saying, or giggle, or pretend to hold their noses. What could you do to help Sarah?

Scenario 2

Imagine that you get the bus home from school. It is one of your favourite parts of the day. Everybody sits with their friends and has a chat. There is lots of laughing and smiling. Now imagine that every day you see Daniel getting onto the bus looking anxious and scared. A group of boys always push him as he gets on the bus, trip him up as he walks down the aisle and take his books out of his bag and throw them around the bus. The other children copy the group of boys, or laugh, or shout and cheer. What could you do to help Daniel?

Appendix 8.10: Letter of Consent

Dear Parent/Carer,

I am undertaking a doctorate degree in Applied Educational Psychology and employed as a Trainee Educational Psychologist by _____ Council. Your child's school has agreed to deliver an anti-bullying curriculum called 'Defeat Bullying' (NSPCC 2007) which consists of 5 anti-bullying lessons. I will be evaluating the effectiveness of this programme.

Your child is currently in the class that I am proposing to use for this study and I appreciate that you will want to know what it involves in case you do not want your child to contribute to my data collection, which will always be treated anonymously. I wish to make it absolutely clear that there is no suggestion that your child has been involved with bullying at school. I should be grateful if you would take time to read the following information carefully.

Your child's school will be placed in one of the following groups;

4. An intervention group
5. An intervention group plus parental involvement
6. A control group (where they will receive no intervention)

If your child's school is placed in one of the intervention groups we anticipate that this will be a valuable and enjoyable experience for your child. They will be given 5 anti-bullying lessons by their teacher, which aim to

- develop an awareness of bullying behaviour
- enhance children's confidence and ability to offer support to victims of bullying
- encourage children to take responsibility and seek help

Each lesson will last approximately 1 ½ hour and will involve activities such as role play, listening to stories, games, group work and whole class discussions.

If your child is placed in the intervention group plus parental involvement, you will be invited to attend an anti-bullying workshop within school which will last approximately 1 hour. The aim of the workshop will be to raise awareness of bullying, provide information about the anti-bullying curriculum and inform parents as to how they can support their children at home to consolidate and expand their child's learning. If your child is in this group they will be given a piece of homework every week to complete with you.

If your child is placed in the control group, where no intervention will take place, they will have the opportunity to receive the intervention at the start of the next academic year providing its effects are found to be significantly beneficial.

If you and your child agree then your child will be asked to complete two self report questionnaires in order to measure reported levels of bullying and their attitude towards bullying. They will also be asked about their knowledge of how to intervene in bullying situations. In addition to this, your child's class teacher may complete a questionnaire about your child's strengths and difficulties in relation to his/her behaviour in class. These measures will be taken one week before the curriculum is delivered, one week after and a month later.

It is important that you explain this study to your child and ask them if they would like to take part in the data collection. It should be highlighted that if at any point you or your child would like to withdraw from the data collection then you/they are free to do so. Please could you and your child complete the consent slip below and return to school by the 1st May 2010.

Yours Sincerely

Anti-bullying Study Consent Slip

Name of Child:

Year:

This study has been explained to me to my satisfaction, and I agree for my child to take part in the data collection. I understand that I am free to withdraw him/her at any time
_____ (parent/carers signature)

This study has been explained to me to my satisfaction, and I agree to take part in the data collection. I understand that I am free to withdraw at any time
_____ (child's signature)

Appendix 8.11: Bully Index Data

School	Item Number	Percentage of pupils that ticked 'more than once'		
		Pre-Test	Post-Test One	Post Test Two
1	1	0.00	0.00	5.00
1	2	0.00	0.00	0.00
1	3	0.00	0.00	0.00
1	4	8.00	8.00	0.00
1	5	0.00	0.00	0.00
1	6	4.00	4.00	0.00
2	1	14.60	24.80	31.80
2	2	4.50	9.50	4.50
2	3	4.50	4.80	4.50
2	4	27.70	19.00	0.00
2	5	14.60	0.00	14.60
2	6	27.30	24.80	22.70
3	1	5.00	0.00	0.00
3	2	0.00	0.00	0.00
3	3	0.00	0.00	0.00
3	4	5.00	0.00	0.00
3	5	0.00	0.00	0.00
3	6	5.00	0.00	0.00

Item 1 = Tried to kick me

Item 2 = Said they'd beat me up

Item 3 = Tried to make me give them money

Item 4: Tried to hurt me

Item 5: Tried to break something of mine

Item 6: Tried to hit me

Appendix 8.12: General Aggression Index Data

School	Item Number	Percentage of pupils that ticked 'more than once'			Percentage of pupils that ticked 'once'		
		Pre-Test	Post-Test One	Post-Test Two	Pre Test	Post-Test One	Post-Test Two
1	1	0.00	0.00	5.00	0.00	8.00	10.00
1	2	0.00	0.00	0.00	4.00	4.00	0.00
1	3	0.00	0.00	0.00	0.00	0.00	0.00
1	4	8.00	8.00	0.00	4.00	8.00	0.00
1	5	0.00	0.00	0.00	0.00	4.00	5.00
1	6	4.00	4.00	0.00	4.00	4.00	0.00
1	1	14.60	24.80	31.80	9.10	4.80	9.10
2	2	4.50	9.50	4.50	14.60	9.50	14.60
2	3	4.50	4.80	4.50	4.50	0.00	0.00
2	4	27.70	19.00	0.00	0.00	0.00	18.20
2	5	14.60	0.00	14.60	9.10	19.00	0.00
2	6	27.30	24.80	22.70	14.60	4.80	9.10
3	1	5.00	0.00	0.00	10.00	9.50	14.60
3	2	0.00	0.00	0.00	0.00	0.00	0.00
3	3	0.00	0.00	0.00	0.00	0.00	0.00
3	4	5.00	0.00	0.00	10.00	0.00	4.50
3	5	0.00	0.00	0.00	0.00	0.00	9.10
3	6	5.00	0.00	0.00	10.00	4.80	0.00

Item 1 = Tried to kick me

Item 2 = Said they'd beat me up

Item 3 = Tried to make me give them money

Item 4: Tried to hurt me

Item 5: Tried to break something of mine

Item 6: Tried to hit me

Appendix 8.13: Total Difficulties Raw Scores

School	Pre-Test	Post-Test One	Post-Test Two
1	5.00	6.00	4.00
1	.0	1.00	4.00
1	8.00	6.00	5.00
1	2.00	1.00	6.00
1	1.00	.0	7.00
1	9.00	7.00	9.00
1	10.00	6.00	9.00
1	5.00	4.00	10.00
1	19.00	16.00	27.00
1	5.00	2.00	5.00
1	7.00	2.00	6.00
1	20.00	14.00	14.00
1	14.00	7.00	99.00
1	.0	2.00	99.00
2	14.00	14.00	10.00
2	9.00	8.00	.0
2	21.00	17.00	10.00
2	14.00	9.00	8.00
2	1.00	2.00	4.00
2	1.00	1.00	4.00
2	4.00	4.00	99.00
2	.0	99.00	99.00
2	9.00	10.00	11.00
2	4.00	1.00	2.00
2	7.00	6.00	14.00
2	12.00	5.00	14.00

2	14.00	7.00	.0
2	17.00	9.00	14.00
2	22.00	18.00	15.00
3	7.00	9.00	2.00
3	10.00	11.00	7.00
3	8.00	14.00	11.00
3	1.00	1.00	2.00
3	1.00	1.00	5.00
3	14.00	7.00	4.00
3	7.00	8.00	10.00
3	6.00	4.00	10.00
3	.0	.0	6.00
3	4.00	4.00	6.00
3	9.00	7.00	7.00
3	4.00	4.00	5.00
3	.0	4.00	2.00
3	1.00	2.00	8.00
3	2.00	4.00	1.00

NB: 99 represents missing data

Appendix 8.14: Prosocial Raw Scores

School	Pre-Test	Post-Test One	Post-Test Two
1	5.00	5.00	5.00
1	8.00	10.00	8.00
1	9.00	10.00	7.00
1	5.00	9.00	6.00
1	7.00	10.00	9.00
1	10.00	10.00	10.00
1	6.00	10.00	5.00
1	6.00	5.00	8.00
1	4.00	9.00	6.00
1	4.00	6.00	4.00
1	8.00	9.00	8.00
1	7.00	9.00	9.00
1	4.00	2.00	5.00
1	5.00	6.00	99.00
1	10.00	8.00	99.00
2	9.00	5.00	10.00
2	8.00	5.00	10.00
2	4.00	6.00	7.00
2	5.00	5.00	10.00
2	5.00	5.00	5.00
2	6.00	5.00	7.00
2	8.00	6.00	99.00
2	9.00	99.00	99.00
2	9.00	10.00	8.00
2	5.00	5.00	9.00
2	7.00	6.00	6.00

2	8.00	9.00	8.00
2	6.00	6.00	10.00
2	4.00	4.00	4.00
2	4.00	4.00	4.00
3	5.00	5.00	9.00
3	6.00	5.00	9.00
3	8.00	5.00	9.00
3	8.00	6.00	9.00
3	9.00	7.00	9.00
3	1.00	2.00	9.00
3	4.00	4.00	7.00
3	7.00	7.00	9.00
3	10.00	10.00	9.00
3	9.00	6.00	8.00
3	5.00	6.00	9.00
3	5.00	6.00	8.00
3	8.00	9.00	9.00
3	9.00	5.00	9.00
3	9.00	8.00	10.00

NB: 99 represents missing data

Appendix 8.15: Pro-Victim Scale Raw Scores

School	Pre-Test	Post-Test One	Post Test Two
1	26.00	28.00	30.00
1	26.00	30.00	30.00
1	27.00	30.00	26.00
1	30.00	30.00	29.00
1	28.00	30.00	26.00
1	30.00	26.00	27.00
1	30.00	25.00	28.00
1	28.00	25.00	28.00
1	24.00	28.00	25.00
1	30.00	29.00	30.00
1	28.00	25.00	30.00
1	27.00	28.00	29.00
1	26.00	24.00	30.00
1	28.00	30.00	30.00
1	27.00	27.00	30.00
1	28.00	29.00	28.00
1	25.00	30.00	25.00
1	28.00	26.00	26.00
1	27.00	30.00	28.00
1	28.00	27.00	99.00
1	29.00	28.00	30.00
1	26.00	27.00	99.00
1	30.00	30.00	99.00
1	30.00	27.00	99.00
1	29.00	24.00	99.00
2	28.00	29.00	30.00

2	30.00	21.00	28.00
2	28.00	24.00	28.00
2	25.00	26.00	30.00
2	29.00	26.00	29.00
2	29.00	29.00	30.00
2	28.00	17.00	27.00
2	25.00	30.00	26.00
2	27.00	28.00	22.00
2	17.00	28.00	25.00
2	20.00	20.00	26.00
2	27.00	29.00	20.00
2	29.00	30.00	25.00
2	27.00	27.00	30.00
2	30.00	28.00	28.00
2	28.00	20.00	24.00
2	28.00	27.00	30.00
2	26.00	29.00	30.00
2	30.00	27.00	29.00
2	18.00	28.00	29.00
2	28.00	27.00	28.00
2	28.00	99.00	20.00
3	29.00	26.00	30.00
3	30.00	29.00	25.00
3	26.00	28.00	28.00
3	30.00	30.00	26.00
3	26.00	24.00	30.00
3	29.00	27.00	26.00
3	29.00	29.00	29.00

3	25.00	28.00	30.00
3	26.00	25.00	28.00
3	28.00	30.00	25.00
3	27.00	29.00	30.00
3	27.00	30.00	28.00
3	24.00	99.00	30.00
3	25.00	28.00	24.00
3	30.00	28.00	28.00
3	27.00	99.00	29.00
3	30.00	99.00	21.00
3	26.00	99.00	30.00
3	30.00	99.00	27.00
3	30.00	99.00	28.00
3	99.00	99.00	29.00
3	99.00	99.00	28.00

NB: 99 represents missing data

Appendix 8.16: Total number of responses given to the vignette per group in the three schools at each test time.

School	Pre-Test	Post-Test One	Post-Test Two
1	4.00	10.00	6.00
1	8.00	4.00	6.00
1	5.00	5.00	6.00
1	5.00	6.00	6.00
1	5.00	7.00	99.00
2	4.00	6.00	11.00
2	4.00	8.00	4.00
2	7.00	7.00	8.00
2	5.00	10.00	8.00
2	7.00	9.00	7.00
3	5.00	8.00	7.00
3	4.00	5.00	8.00
3	6.00	9.00	7.00
3	7.00	6.00	6.00

NB: 99 represents missing data